NATIONAL MUSEUM OF VICTORIA

LONDON.
Printed for Nodder & Co.15 Brewer St. Golden Sq. 1790.

VIVARIUM NATURÆ,

SIVE

RERUM NATURALIUM,

VARIÆ ET VIVIDÆ ICONES,

AD

IPSAM NATURAM.

DEPICTÆ

ET

DESCRIPTÆ.

THE

NATURALIST'S

MISCELLANY:

OR,

COLOURED FIGURES

OF

NATURAL OBJECTS;

DRAWN AND DESCRIBED

IMMEDIATELY

FROM

NATURE.

AUGUSTISSIMÆ CELSISSIMÆQUE

CAROLETTÆ,

BRITANNIARUM REGINÆ,

VIRTUTIBUS PRÆCELLENTISSIMÆ,

ARTIUM ELEGANTIARUM

JUDICI, FAUTRICI SUMMÆ,

HUNC PRIMUM

NATURÆ VIVARII

FASCICULUM

CULTU OMNI ET OBSEQUIO

D. D. D.

GEORGIUS SHAW,

FREDERICUS P: NODDER.

TO THE

MOST ILLUSTRIOUS PRINCESS,

CHARLOTTE,

QUEEN OF GREAT BRITAIN,

NOT LESS DISTINGUISHED BY

HER VIRTUES

THAN

HER STATION,

THIS FIRST VOLUME

OF THE

NATURALIST'S MISCELLANY

IS

WITH PROFOUND HUMILITY INSCRIBED

BY

HER MAJESTY'S MOST DEVOTED

AND

MOST OBEDIENT SUBJECTS AND SERVANTS,

GEORGE SHAW,

FREDERICK P: NODDER.

PSITTACUS PORPHYROCEPHALUS.

Character Genericus.

Roſtrum aduncum: mandibula ſuperiore mobili, cera inſtructa.
Nares in roſtri baſi.
Lingua carnoſa, obtuſa, integra.
Pedes ſcanſorii.

Lin. Syſt. Nat. p. 139.

Character Specificus.

PSITTACUS ſubmacrourus viridis, vertice ſubcriſtato, purpureo-cæruleo, gula rubra.

Inter numeroſas hujus generis ſpecies vix extat avicula aut forma elegantior, aut coloribus pulchrior. Inſulas incolit auſtrales modo exploratas, nuperis navigiis inde ad nos advecta. Interdum fit ut differat paulum colore alia ab alia: ut nempe in nonnullis ſint femora viridia, in nonnullis purpurea. Interdum etiam pectus aliquid fuſci coloris exhibet. Hæ differentiæ fortaſſe vel ſexus diſcrimina indicant, vel a juniori aut provectiori ætate oriuntur.

THE

PURPLE-HEADED PARRAKEET.

Generic Character.

Bill hooked. Upper mandible moveable.
Noſtrils round, placed in the baſe of the bill.
Tongue fleſhy, broad, blunt at the end.
Legs ſhort. Toes formed for climbing, viz. two backward and two forward.

Linnæus and Pennant.

Specific Character.

GREEN PARRAKEET, with the tail rather elongated; crown ſlightly creſted, and of a purpliſh blue; throat red.

BLUE-CRESTED PARRAKEET.

Latham's Synopſis of Birds. vol. I. p. 254.

Of the extenſive genus to which this bird belongs, there hardly exiſts a more beautiful ſpecies, either in point of ſhape or colour. It is a native of the newly-diſcovered Iſlands in the South-Sea, and is one of the numerous acquiſitions with which Natural Hiſtory has been enriched by the late Voyages to the Southern Hemiſphere. It is ſubject to ſome variety as to colour, the thighs in ſome being green, and in others purple: the breaſt alſo is ſometimes of a duſky tinge. Theſe are probably either ſexual differences, or elſe may be owing to a more or leſs advanced ſtate of age.

PHALÆNA ATLAS.

Character Genericus.

Antennæ ſetaceæ, a baſi ad apicem ſenſim attenuatæ.

Alæ, ſedentis, ſæpius deflexæ. (*Volatu* nocturno.)
Lin. Syſt. Nat. p. 808.

Character Specificus.

PHALÆNA pectinicornis elinguis, alis falcatis, concoloribus luteo-variis, macula feneſtrata: ſuperioribus ſeſqui-altera.
Lin. Syſt. Nat. p. 808.

Phalæna, in hac tabula depicta, eſt omnium phalænarum hactenus cognitarum maxima: omnium etiam, teſtante Linnæo ipſo, ſpecioſiſſima. Hiſtoriæ naturalis cultoribus jamdudum eſt cognita, et a Domina Merian in Hiſtoria Inſectorum Surinamenſium depicta: quæ tamen eximiam ipſius inſecti venuſtatem et varios colores in tabula minus feliciter exprimit. Eruca, notabilis hujus inſecti mater, prægrandis eſt, colore viridi, et tuberculis flavis annulata. Appropinquante ejus in chryſalidem metamorphoſi, telam ſerici ſubflavi de ſuo ipſius glutine deducit, in qua cubat, durante chryſalidos ſtatu. Erucæ hæ in China, et aliis Orientis regionibus, nec-non in America calidiori frequenter reperiuntur: et quandoquidem ter quolibet in anno producuntur, ſe-

ricum

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ricum illinc ortum commercii non parvi æſtimandi fieri poſſit fundamentum; firmiſſimum enim hoc ſericum ſimul ac elegantiſſimum habetur. Opinionem hanc jam olim vulgavit Domina Merian.

Vide Inſect. Surin. tab. 52.

Veſcitur hæc Eruca præcipue foliis citri.

Phalænæ non mediocrem pulchritudinem afferunt antennæ ſuæ: ſinguli enim antennarum articuli radiis quatuor, ſeu duobus utrinque ſe diducentibus inſtructi ſunt, ita ut duplices appareant.

THE
ATLAS MOTH.

GENERIC CHARACTER,

The *Antennæ* or *Horns* ſetaceous, decreaſing in ſize from the baſe to the point.
The *Wings*, when at reſt, generally deflected.
Flight, generally nocturnal.

SPECIFIC CHARACTER.

MOTH with ſub-falcated Wings, varied with different ſhades of ferruginous and orange; with a large tranſparent ſpot on each, and a ſmaller contiguous ſpot on the upper wings. Colour of both the ſurfaces nearly the ſame.

The Moth figured in this plate is the largeſt ſpecies of Phalæna, hitherto diſcovered; it muſt be unneceſſary to add, that it is one of the moſt beautiful. Linnæus, in the Syſtema Naturæ, calls it Specioſiſſima Phalænarum. It has been long known to naturaliſts, and has been figured by Madam Merian, amongſt the inſects of Surinam. The figure, however, which ſhe has given, does not by any means do juſtice to the uncommon elegance of the inſect itſelf. The Caterpillar from which this remarkable Moth is produced, is very large, of a green colour, and ſurrounded by rings of yellow

low tubercles. When the period of its change approaches, it ſpins a web of extremely ſtrong yellowiſh ſilk, in which it lies during its ſtate of chryſalis. The Caterpillars are very common in China, and other parts of the Eaſt-Indies, as well as in America; and as the Moth breeds thrice a year, it might, in all probability, be made a very profitable article of commerce; ſince the ſilk it produces, is extremely ſtrong and rich. Madam Merian has obſerved this in her account of the animal.

See her Hiſtory of the Surinam Inſects, tab. 52.

This Caterpillar feeds principally on Orange leaves.

What adds, in a moſt remarkable manner, to the beauty of the Moth, is the curious ſtructure of the Antennæ, or Horns; which are pinnated in a quadruple ſeries of fibres, ſo as to appear as if double, or compoſed of two pair of Antennæ laid over each other.

MOSCHUS PYGMÆUS.

Character Genericus.

Cornua nulla.
Dentes laniarii ſuperiores ſolitarii exſerti.

Lin. Syſt. Nat. p. 91.

Character Specificus.

MOSCHUS pedibus humano digito anguſtioribus.

Lin. Syſt. Nat. p. 92.

Quadrupedem ungulatorum ſi non minimum, unum tamen e minimis cenſetur elegantiſſimum hoc animal; vix feli minori magnitudine par. Scatent illo Indiæ Orientalis variæ regiones; necnon inſula Java. Corpore eſt agili, et ingenio vivido. Primo intuitu vix ad genus Moſchi pertinere videtur: cum tamen a Linnæo et Pennantio ita diſponitur, quis inficias ibit? Dentes laniarii ſuperiores in hac ſpecie non exſerti, ut in Charactere Generico, ſed breviſſimi ſunt. Beſtiolæ hujus color ſuperiori parte plerumque eſt ſubferrugineus, inferiori albidus: ſed in hoc ipſo ſpecimine (adhuc in Muſeo Leveriano conſervato) collum faſciis albis pulchre notatum eſt.

THE
PYGMY MUSK.

GENERIC CHARACTER.

No *Horns.*

Two long *Tuſks* in the upper jaw.

Eight ſmall cutting *Teeth* in the lower jaw, none in the upper.

Linnæus and *Pennant.*

SPECIFIC CHARACTER.

MUSK with legs of ſmaller diameter than the human finger.

GUINEA MUSK.

Pennant. Hiſt. Quadr. p. 115.

This elegant little creature is one of the ſmalleſt of the hooſed quadrupeds, being ſeldom more than about 9 Inches in length; or about the ſize of a ſmall cat. It abounds in ſeveral parts of the Eaſt-Indies, and is common in the iſland of Java. It is an animal of a very agile and lively diſpoſition. At firſt view one would not be inclined to rank this creature in the genus Moſchus or Muſk. Yet, ſince both Linnæus and Mr. Pennant have agreed in ſo doing, we ſhall not object to its being thus placed. The tuſks in the upper jaw are, however, very ſhort, ſo that it does not ſhew, in a ſtriking manner, that particular of its generic character. This little ſpecies is generally of a tawny colour above, and white below; but the individual ſpecimen, from which this figure was taken (and which is now in the *Leverian* Muſeum), is ſtreaked in a remarkable manner on the neck with white.

TANAGRA TATAO.

Character Genericus.

Roſtrum conicum, acuminatum, emarginatum, baſi ſubtrigonum, apice declive.
Lin. Syſt. Nat. p. 313.

Character Specificus.

TANAGRA violacea, dorſo nigro, uropygio fulvo, capite viridi, pectore aliſque violaceis.
Lin. Syſt. Nat. p. 315.

Neſcio an hac plumas habeat aliqua avis ſplendidiores. Poſſunt ſane Trochili, aliarumque nonnullarum colores, ſigillatim inſpecti magis niteſcere; vix tamen alii avi obtigit tanta lucidarum plumarum varietas. Guianum incolit in America Auſtrali pulcherrima hæc avicula. Fæminæ et pullis pallidior eſt color; fit etiam interdum ut avis adulta differat paulum colore alia ab alia. Cantu plane caret; quod illi cum multis aliis regiones calidiores incolentibus commune eſt: dicamus igitur cum elegantiſſimo fabularum ſcriptore, '*Si vocem haberes nulla prior ales foret.*'

THE

PARADISE TANAGRA.

Generic Character.

Bill conical, acuminated, a little inclining towards the point, upper mandible ſlightly ridged, and notched near the end.

Linnæus and *Pennant*.---Claſs, *Paſſeres*.

Specific Character.

VIOLACEOUS TANAGRA, with the back black, the rump orange, head green, breaſt and wings violet-blue.

Lin. Syſt. Nat. p.

Le SEPTICOLOR.

Buff. Oiſ. vol. IV. p. 279. pl. 13.

TITMOUSE of PARADISE.

Edw. pl. 349.

It may be doubted whether in the whole feathered tribe there exiſts a bird of gayer plumage than this. In the Humming-birds and ſome others, there are indeed ſtill more vivid hues, if ſingly conſidered; but ſcarce any bird yet known diſplays ſuch a combination of lively colours. This ſplendid little creature is an inhabitant of Guiana in South America. The female is ſomewhat leſs brilliant in colour, as is alſo the caſe with

Published as the Act directs by Sir J.T. Stanley & C.ts, No 10 Pantheon Street.

with thoſe which have not yet attained their full age; it likewiſe happens that ſome ſlight varieties occaſionally take place in the colours of the full-grown birds. Like many of the gay birds of the hotter climates, it is deſtitute of ſong. In the words of the elegant fabuliſt, we may apply to it, '*Si vocem haberes, nulla prior ales foret.*'

ANGUIS SCYTALE.

Character Genericus.

Squamæ abdominales et ſquamæ ſubcaudales.
Lin. Syſt. Nat. p. 390.

Character Specificus.

Anguis ſquamis abdominalis 240, caudalibus 13.
Lin. Syſt. Nat. p. 392.

Non ſolum pulcherrimis dives coloribus ſuperbit hic ſerpens, ſed et omni noxio prorſus caret. Plurimus eſt in America Auſtrali, ſylvas incolens, variaque inſecta devorans, ſcolopendras præcipue, quibus maxime delectari dicitur, ibi non ſolum numeroſiſſimis ſed et maximis. Colore eſt interdum albo nigroque, interdum ſubroſeo nigroque : color tamen illi elegantiſſimus eſt aurantio-ruber, ventrem flaveſcens, totum corpus faſciis aterrimis pulcherrime variatus. Mira eſt illa et peculiaris generi exuvias abjiciendi facultas ; hoc peracto novus ingreditur ſerpens forma læte vivida et coloribus ſplendidiſſimis. Hinc tamen fit ut non leviter errent Phyſici, qui ea de cauſa ſpecies minus accurate diſtinguere poſſunt. Notabilis hujus rei cauſam ita ſcite exponit celeberrimus Linnæus.

‘Hos nuda in terra rejectos, artuum miniſterio ex-
‘pertes, omnium injuriæ expoſitos, armavit natura con-

'ſervatrix ſuis armis, horrentibus execrabili veneno,
'peſſimorum peſſimo, in diverſis diverſo. Ne vero hi
'ſpoliati miſerique armis quæ ipſis ſupereſſent nimium
'ſævirent, decimam quamque tantum ſpeciem armavit
'imperans, ſed verſipelles eos voluit, ut dubii omnes
'metuerentur ab omnibus.'

Published Sept.r 1.1789 by J. P. Nedder & Co. No.13 Panton Street

THE
PAINTED SNAKE.

GENERIC CHARACTER,

Body covered with uniform ſcales, or thoſe on the belly and beneath the tail, not differing in ſhape from the reſt.

SPECIFIC CHARACTER.

SNAKE with about 240 ſcales along the belly, and 13 beneath the tail. General colour black and orange; ſometimes black and white, &c.

The Serpent figured on this plate, beſides being diſtinguiſhed by the beauty of its colours, is perfectly harmleſs. It is common in South America, where it reſides in woods, and preys upon various inſects, &c. It is ſaid to be particularly fond of Scolopendræ, or centipedes, which in thoſe regions are uncommonly numerous and large. It is ſometimes found entirely black and white, and ſometimes pale roſe-colour and black: but the moſt elegant ſtate in which it appears is that of a bright orange-red; much paler or yellowiſh white on the belly, and beautifully faſciated all over with bars of the deepeſt black. One of the moſt ſingular properties of

of the ſerpent tribe, is that of caſting their ſkins at certain periods, and appearing in a ſtate of ſuperior beauty in point of colour than before. This is one of the principal cauſes of that difficulty which obtains amongſt Naturaliſts of determining the ſpecies; ſince one and the ſame animal may vary extremely in colour at different ſeaſons, and therefore be miſtaken for a different ſpecies. Linnæus gives a very good and probable reaſon for this, *viz.* 'That ſince the Author of Nature has 'armed many of the ſerpent tribe with a dreadful poi-'ſon, He has ordained that all ſhould caſt their ſkins, in 'order to inſpire a neceſſary univerſal caution and ſuſ-'picion of the whole tribe.'

BRADYPUS TRIDACTYLUS.

Character Genericus.

Dentes primores nulli utrinque.
Laniarii obtuſi, ſolitarii, molaribus longiores, occurſantes.
Molares utrinque 5, obtuſi.
Corpus pilis tectum.

Lin. Syſt. Nat. p. 50.

Character Specificus.

BRADYPUS pedibus tridactylis, cauda brevi.

Lin. Syſt. Nat. p. 50.

Hoc animali vix aliud aſpectu deformius et inelegantius poteſt excogitari. Species ita in tabula depicta, in America Auſtrali naſcitur; ſedem ſibi quærens in deſertiſſimis locis, ubi otium turbare nec poſſint homines aut alia animantia. Negat celeberrimus Naturæ ſcrutator Buffonius reperiri poſſe aliquid in hoc animali quod mundani ſyſtematis vel uſui vel decori inſerviat; clamitans monſtrum eſſe informe, ſine arte et conſilio factum, et ad ſolas ærumnas aptum. Nec mirum, ait ille; magna enim pars hominum vix fato meliore gaudet. Pace tamen tanti viri, (qui ſæpe ſeria cum ludicris permiſcet) liceat mihi dicere hoc ipſum animal tam vile, tam viſu fœdum, pro ſuis vitæ moribus ſuiſque propriis

priis amœnitatibus non minus apte et idonee formari, quam alia animantia, queis melior forma et ingenium vividius obtigerint. Fructibus præcipue veſcitur Bradypus; ſed et folia ipſa lubenter comedit. Motu incedit languido et tardiſſimo. Vocem emittere dicitur tam ultra fidem ſingularem, tam miſeranter ejulantem, vultu ſimul adeo lachrymoſo, ut audientium miſericordiam et faſtidium commoveat. Inſolitum hunc clamorem, (a natura, ut credere par eſt pro defenſione datum) ſimul ac audierint alia animalia, terrore percita in fugam ſe recipiunt. Nec tamen vox et præterea nihil, quo ſe defendat data eſt; adeo enim robore præpollet Bradypus, ut canem, unguibus ſuis prehenſum, vehementer renitentem, et omni vi evadere conantem mordicus retineat, donec ipſa fame conſumptum miſerit. Tantam enim ipſe tolerare poteſt abſtinentiam, ut trunco appenſus, ſine eſca aut potu, per menſem integrum duraverit, vix tandem fame et languore conſumptus. Patet hoc a mirando Kircheri experimento.

Alia exſtat Bradypi ſpecies; huic valde ſimilis; cui tamen pedes anteriores duobus tantum unguibus muniti ſunt.

Pub.d Sept.r 1.1789 by F. P. Nodder & Co.r N.o 13 Panton Street.

THE

THREE-TOED SLOTH.

GENERIC CHARACTER.

No *Cutting-Teeth* in either Jaw.
Canine Teeth obtuſe, ſingle, longer than the grinders, placed oppoſite.
Grinders five on each ſide, obtuſe.
Fore-Legs much longer than the hind.
Claws very long. [*Linnæus* and *Pennant.*

SPECIFIC CHARACTER.

SLOTH, with three toes on each foot, and a very ſhort tail; ſize of a ſmalliſh dog.

THREE-TOED SLOTH.

Pennant. Hiſt. Quadr. p. 494.

L'AI. [*Buffon.* vol. XIII. p. 34. tab. 5. 6.

So extraordinary is the union of awkwardneſs and ugline ſs in this uncommon creature, that it has generally been regarded as one of the moſt ſtriking examples of animal deformity. The ſpecies here exhibited, is a native of South America, where it reſides in ſolitary places, and where its quietude is leaſt liable to be diſturbed by Man or other animals. A celebrated Naturaliſt, the Count de BUFFON, will not allow this creature to have any ſhare in contributing to the general beauty in the chain of beings, but regards it as an ill-conſtructed maſs of deformity, created only for miſery, which he thinks

thinks is the leſs to be wondered at, when perhaps the major part of mankind experience the ſame fate. With ſubmiſſion, however, to this lively Naturaliſt, I ſhould not heſitate to believe that the Sloth, notwithſtanding this appearnce of wretchedneſs and deformity, is as well faſhioned for its proper modes and habits of life, and feels as much happineſs in its ſolitary and obſcure retreats, as the reſt of the animal world of greater locomotive powers and ſuperior external elegance.

The Sloth feeds chiefly on fruit: it will even feed on the leaves of trees; and it is of all animals the moſt languid in its motions. Its voice is ſaid to be ſo inconceivably ſingular, and of ſuch a mournful melancholy, attended at the ſame time with ſuch a miſery of aſpect, that it excites at once a mixture of pity and diſguſt; and that the animal makes uſe of this natural yell as its beſt mode of defence; ſince other creatures are frightened away by the uncommon ſound. This is, however, far from being its only refuge; for ſo great is the ſhare of muſcular ſtrength which it poſſeſſes, that it is capable of ſeizing a dog with its claws, and holding it, in ſpite of all its efforts to eſcape, 'till it periſhes with hunger; for the Sloth itſelf is ſo well calculated for ſupporting abſtinence, that the celebrated Kircher aſſures us of its power in this reſpect having been exemplified by the very ſingular experiment of ſuffering one which had faſtened itſelf to a pole, to remain in that ſituation, without any ſuſtenance, 'till it periſhed through fatigue and famine; which did not happen 'till more than the ſpace of a whole month.

There is another ſpecies of Sloth which has the ſame general appearance with the ſpecies here figured, but is furniſhed with only two toes to the fore-feet.

PSITTACUS PORPHYRIO.

Character Genericus.

Roſtrum aduncum : mandibula ſuperiore mobili, cera inſtructa.
Nares in roſtri baſi.
Lingua carnoſa, obtuſa, integra.
Pedes ſcanſorii.

Lin. Syſt. Nat.

Character Specificus.

PSITTACUS ſubmacrourus, violaceo-cyaneus, capite ſubcriſtato, gula albida.

Perexigua hæc Pſittaci ſpecies inter elegantiſſimas ſui generis merito locum obtinet. Color illi eſt admodum violaceus, gula pectoriſque parte ſuperiori exceptis, quæ albicant, in quibuſdam ſpeciminibus ſubfuſco obumbrata. Roſtrum pedeſque rubeſcunt. Capitis plumæ fere in criſtam ſunt productæ, ut in Pſittaco Porphyrocephalo in Numero primo hujus operis expreſſo. Huic aviculæ ſingulare quoddam eſt, (quod et Lathamium in Synopſi Avium non effugit,) lingua nempe quæ generi obtuſa et brevis eſt, in hac ſpecie longa eſt, et faſciculo, ſeu penicillo fetularum albarum terminata. Inſulam Otaheitee, in Oceano Auſtrali, incolit hæc ſpecies.

THE

VIOLET-BLUE PARRAKEET.

Generic Character.

Bill hooked. Upper mandible moveable.
Tongue broad, fleſhy, and obtuſe.
Legs rather ſhort. Toes formed for climbing, viz. two forward and two backward.

Specific Character.

VIOLET-BLUE PARRAKEET, with the tail ſomewhat elongated; head rather creſted; throat white. Length about 5 Inches, or ſomewhat more.

OTAHEITAN BLUE PARRAKEET.
Latham. Synopſ. p. 59.

N. B. This bird and the Pſittacus Porphyrocephalus figured in the Firſt Number of *this* work, are very nearly of the ſame ſize and proportion.

This diminutive ſpecies is one of the moſt elegant of its tribe. Its colour is a beautiful deep violet, except on the throat and upper part of the breaſt, where it is white; but in ſome ſpecimens ſlightly tinged with duſky.

duſky. The bill and legs are reddiſh, and the feathers on the head are elongated, ſo as to form a ſlight creſt, in the ſame manner as in the Pſittacus Porphyrocephalus, deſcribed in the Firſt Number of this work.

A very curious circumſtance relative to this little bird, has been obſerved by Mr. Latham in his Synopſis of Birds; viz. that the tongue, which in the reſt of the genus is blunt and ſhort, is in this ſpecies long, and terminated by a ſort of pencil of ſhort white briſtles.

It is a native of the Iſland of Otaheitee in the Southern Hemiſphere.

DRACO VOLANS.

Character Genericus.

Corpus tetrapodum, caudatum, alatum; alis propriis.

Lin. Syſt. Nat. p. 358.

Character Specificus.

DRACO brachiis ab ala diſtinctis.

Lin. Syſt. Nat. p. 358.

Simile eſt Lacertis hoc animalculum niſi quod membranam habeat lateralem, radiis quibuſdam oſſeis firmatam, et quam ad arbitrium vel complicare vel explicare poteſt. Hinc Lacerta volans non inepte nominari poſſet. Celeberrimus tamen Linnæus, in Syſtemate Naturæ, genus illi diſtinctum nomine Draconis dedit.

Africæ indigena eſt, et ut aliæ minores Lacertæ, inter arbores vagatur, more ſciuri volantis, ope membranæ ſuæ lateralis faliens; an volitans potius dicam? Aliarum lacertarum more inſectis veſcitur, quæ (ut verisimile mihi viſum eſt) ſacculo quem habet in gula, ingerit, poſtea pro arbitrio, et per otium comedenda.

Tegitur undique Draco volans ſquamis parvulis, et plerumque eſt coloris ſubcinerei, fuſco alboque plus minus vivide dorſum et alas variatus.

London Published Oct.1st 1789 by J.P. Malden & Co. No.13 Panton Street.

THE
FLYING DRAGON.

GENERIC CHARACTER.

Body four-footed, tailed, and winged:

SPECIFIC CHARACTER.

DRAGON with the fore-legs unconnected with the wings.

It is merely in being furniſhed with a lateral expanded membrane, ſtrengthened by a few radii, or bony proceſſes, that this animal differs from the Lizard tribe; ſo that it might, without impropriety, be named the Flying Lizard. Linnæus however, in his celebrated work, the Syſtema Naturæ, has inſtituted a diſtinct genus for it, under the title of Draco or Dragon.

This animal is an inhabitant of Africa, and like many other of the ſmaller Lizards, delights in wandering about trees, and from the peculiar mechaniſm of its lateral membranes, is enabled to ſpring from bough to bough, and ſupport itſelf in air for a moment or two, in the manner of a flying Squirrel. Like other Lizards, it feeds on inſects, and it is not improbable that the remarkable gular pouch with which it is furniſhed, may be a proviſion of Nature, for retaining for ſome time, a number of ſmall inſects which it may collect, to be afterwards ſwallowed more at leiſure.

This

This animal is covered with very ſmall ſcales, and is generally of an aſh-colour, varied and clouded on the back and wings with brown and whitiſh; which variations in the different ſpecimens of the animal are more or leſs deep.

SCOLOPENDRA MORSITANS.

Character Genericus.

Pedes numeroſi, totidem utrinque quot corporis ſegmenta.
Antennæ ſetaceæ.
Palpi duo, articulati.
Corpus depreſſum.

Lin. Syſt. Nat. p. 1062.

Character Specificus.

SCOLOPENDRA pedibus utrinque 20.

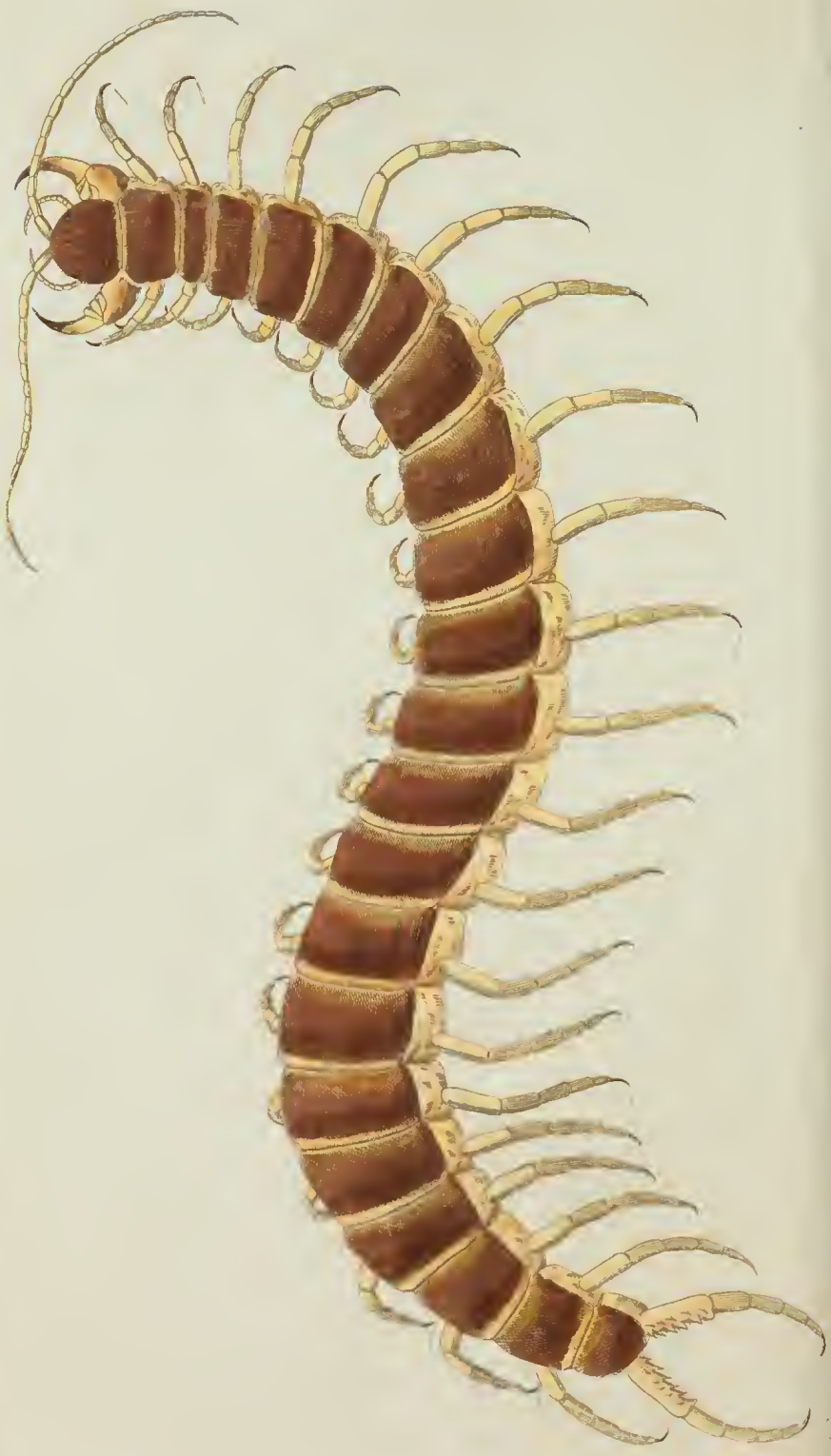
Lin. Syſt. Nat. p. 1063.

Huic Inſecto, Indiam utramque et Africam incolenti, formidoloſus omnino et horridus eſt aſpectus. Non ſatis manifeſte patet (ut mihi viſum eſt) diſcrimen inter duas ſpecies Linnæanas, Giganteam ſcilicet et Morſitantem. Articulos itidem, ſeu corporis pedumque ſegmenta, non ſemper in eadem ſpecie numero æqualia eſſe opinatus ſum. In ſpecie Europœa, ita ſe rem habere, probe cognoſcitur: larvæ enim, ſeu juniores, pedibus paucioribus quam ſeniores ſunt inſtructi. Veneno quodam imbuta eſt ſpecies illa jam deſcripta, quod per forcipem tubulatam, cui apex foratus, morſu in vulnus indit.

Scolopendræ

Scolopendræ hæ ingentes in ſylvis plurimæ ſunt, variis anguibus cibum præbentes. In domus haud raro irrepunt, Indiam colentibus adeo moleſtæ, ut lectorum poſtes in aqua immergere dicantur incolæ, ne noctu incommodi aliquid ab inſectis hiſce horrendis percipiant.

Veteres qui de Hiſtoria Naturali ſcripſerunt, multa et dira perhibent de Scolopendrarum morſu, quorum tamen ita incertum eſt teſtimonium, ut facete potius fabulari, quam in veritatis inveſtigatione verſari videantur.



THE

GREAT SCOLOPENDRA,

OR

CENTIPEDE.

Generic Character.

Feet numerous. As many on each ſide as the joints of the body.
Antennæ ſetaceous and jointed.
Feelers 2, jointed.
Body depreſſed, or flattened.

Linnæus.

Specific Character.

SCOLOPENDRA with about 20 legs on each ſide.

There is ſomething uncommonly formidable in the appearance of this Inſect. It is found both in the Eaſt and Weſt-Indies, as well as in different parts of Africa. The difference between the two Linnæan ſpecies, the Gigantea and Morſitans, does not appear ſufficiently clear, and I am inclined to believe that the number of joints and conſequently of legs, is not always the ſame in different ſpecimens of the ſame animal; indeed, in

the ſmaller European ſpecies this is well known to be the caſe; the larvæ, or thoſe which are young, being furniſhed with fewer feet than when in a more advanced ſtate of life. The ſpecies here deſcribed, is of a poiſonous nature, and is furniſhed with a pair of forceps, which being tubular, and with an opening or ſlit towards the points, are the inſtruments through which the inſect injects its poiſonous juice when it bites.

Theſe large Scolopendræ chiefly inhabit the woods, where they are preyed upon by different ſpecies of ſnakes; but, like the European ones, they ſometimes are found in houſes, and are ſaid to be ſo common in ſome particular diſtricts, that the inhabitants are obliged to have the feet of their beds placed in veſſels of water, to prevent their being annoyed during the night by theſe horrible reptiles. The older writers on Natural Hiſtory are full of the dreadful conſequences reſulting from the bites of Scolopendræ, but their deſcriptions are ſo vague, and their accounts ſo uncertain, that no great ſatisfaction can be obtained from reading their Hiſtories.

MOTACILLA SUPERBA.

Character Genericus.

Roſtrum ſubulatum, rectum: mandibulis ſubæqualibus.
Nares obovatæ.
Lingua lacero-emarginata.

Lin. Syſt. Nat. p. 328.

Character Specificus.

MOTACILLA nigra, remigibus fuſcis, abdomine albo, fronte geniſque cæruleis.

Hæc avicula, inter alias ſui generis forſan pulcherrima, Novæ Hollandiæ, præcipue Terræ de Van Dieman dictæ incola eſt; illinc paucis abhinc annis primum in Angliam illata. Colores paulum variat; circa frontem ſcilicet plus minus eſt cærulea, ventrem plus minus albida. Caput eſt aterrimum; quod tegunt plumæ molliſſimæ. Totum etiam corpus veſtiunt plumæ præter ſolitum teneræ et elegantes.

THE
SUPERB WARBLER.

Generic Character,

Bill ſubulated (or awl-ſhaped); ſtrait; the mandibles nearly equal.
Noſtrils nearly oval.
Tongue jagged, or lacerated towards the tip.

Specific Character.

BLACK WARBLER, with the long feathers of the wings brown; the belly white; the forehead and cheeks blue.

The beautiful ſpecies of Motacilla here figured, is a native of that part of New Holland called Van Dieman's Land; and is one of the new ſpecies of birds, which have been diſcovered during the voyages to thoſe parts. It varies a little in colour, ſome ſpecimens having more of the blue on the head than others; the belly alſo in ſome ſpecimens is of a more duſky tinge than in others. The head is of the deepeſt velvet-black, and the feathers on the whole bird have an unuſual ſhare of ſoftneſs and elegance.

London. Published Nov.r 1st 1819 by E.P. Nodder & Co.r 113 Patton Street

MANIS PENTADACTYLA.

Character Gènericus.

Dentes nulli.
Lingua teres, extenſilis.
Os anguſtatum in roſtrum.
Corpus ſquamis tectum.

Lin. Syſt. Nat. p. 52.

Character Specificus.

MANIS pedibus pentadactylis.

Lin. Syſt. Nat. p. 52.

LACERTUS SQUAMOSUS.

Bont. Jav. p. 60.

Externam tantum formam ſpectanti, videatur hoc animal inter lacertos debere reponi: quibus tamen nulla alia re eſt affine. Eſt enim quadrupes revera viviparum, ab aliis quadrupedibus in hoc tantum diſcrepans, quod ſquamis validis admodum et magnis, pro pilis veſtitur. Hæ ſquamæ mire adeo a Natura comparantur ut, appropinquante periculo, contrahere ſeſe poſſit animal in pilam oblongam, nullis pene dixerim vulneribus obnoxiam; ſunt enim ſquamæ robuſtæ adeo et acutæ, ut pedes ferarum rapacium, incaute contrectare audentium, ſevere lancinent. Animal mite eſt

Manis,

Manis, veſciturque præcipue inſectis et vermibus. Inter ſylvas et loca paluſtria vagatur, nullam aliam vocem præter rhonchum quendam peculiarem emittens. In magnam interdum creſcit molem, pedes ſeptem vel octo longa. Alia ſpecies eſt hujus generis, in pluribus huic valde ſimilis, cui tamen cauda multo longior, pedeſque unguibus quatuor tantum muniti ſunt. Species hic depicta in India Orientali habitat, in inſula Java quam alibi frequentior. In Africa etiam dicitur inveniri.

S. N.

London. Published. Nov.r 1st 1789 by H. P. Nodder & Co. No. 43 Paston Street.

THE

FIVE-TOED MANIS.

Generic Character.

No *Teeth.*
Tongue cylindric and extenſile.
Mouth narrowed into a ſnout.
Body covered with ſcales.

Specific Character.

MANIS with pentadactylous (or five-toed) feet.
Lin.

SHORT-TAILED MANIS.
Pennant. Hiſt. Quadr. p. 505.

If external form alone were regarded in this animal, it might be looked upon as a ſpecies of Lizard, ſo ſtriking is the general reſemblance which it bears to that tribe. In reality, however, it has no other affinity with thoſe creatures; it is a genuine viviparous quadruped, and only differs from the generality of other quadrupeds in being covered, not with hairs, but with large and ſtrong ſcales, which are ſo admirably contrived by Nature, as to enable it to contract itſelf on the approach of danger, into an oblong ball, in ſuch a manner

a manner as to be almoſt invulnerable; for ſuch is the ſtrength and ſharpneſs of its ſcales, that they have been known to cut the feet of ſuch beaſts of prey as have ventured to attack it in this its defended ſtate. The Manis is an animal of a harmleſs diſpoſition. It feeds principally on inſects, worms, &c. wanders about woody and marſhy places, and has no other voice than a ſort of ſnorting. It grows to a very great ſize, and ſometimes meaſures ſeveral feet in length. There is another ſpecies of Manis, which has the ſame general appearance, but which differs in having a much longer tail, and the feet furniſhed with four claws only, inſtead of five.

The ſpecies here figured, is an Eaſt-Indian animal, and ſeems to be more common in the iſland of Java, than in other parts. It has alſo been found in Africa,

ARANEA AVICULARIA.

Character Genericus.

Pedes octo.
Oculi octo.
Os unguibus, ſeu retinaculis duobus.
Palpi duo articulati; maſculis genitalibus capitati.
Anus papillis textoriis.

Lin. Syſt. Nat. p. 1030.

Character Specificus.

ARANEA thorace orbiculato convexo; centro tranſverſe excavato.

Lin. Syſt. Nat. p. 1034.
Mer. Sur. t. 18.
Fabric. Spec. Inſ. p. 515.

Araneam vulgarem et domeſticam non poſſunt non horreſcere et averſari incurioſi naturæ obſervatores. Quam longe tamen diſtat hæc minuta et imbellis ſpecies ab Aranea Avicularia horrenda et ingenti mole! quam non ſolum alia Inſecta ſed ipſæ etiam aves reformidant, forcipes habentem unguibus accipitris magnitudine pares, oculoſque quibus exſectis et more vitri optici paratis pro microſcopio uti poſſunt Philoſophi.

Enormis

Enormis hæc Aranea in variis Americæ regionibus ſæpe conſpecta, frequentior eſt in America Meridionali. Inter arbores verſatur, aviculis inſidians, quas prius forcipibus vulneratas ſanguinem exſugendo deinde enecat. Forcipes iſtæ virus inflant in vulnus, ut et aliis pleriſque Araneis commune eſt. Foramen juxta apices forcipum, per quod exit venenum, et de quo, ſitne foramen necne, multum diuque inter phyſicos dubitatum eſt, in hac ſpecie ab ipſo oculo, ſine ope microſcopii plane poteſt percipi.

Mirari ſane jure poſſunt illi, qui in microſcopicis inveſtigationibus verſantur, illique præcipue qui microſcopio Liberkuniano uſi ſunt, ullum unquam exſtitiſſe dubium de hoc foramine in Aranearum forcipibus: ineſſe enim illud Araneæ ipſi vulgari et domeſticæ plane demonſtrat prima vel ſecunda lens iſtius microſcopii. Notandum tamen eſt commune microſcopium ad diſtinctum rei tam minutæ conſpectum non ſatis accommodari. Swammerdamii et Roëſelii acumen effugit hoc foramen, et probe notum eſt Meadum celeberrimum in tractatu ſuo de venenis Leewenhoekium erraſſe credere, cum venenum Araneæ per foramen forcipum exprimi aſſerit: affirmat enim Meadus ſe variarum ſpecierum forcipes, et ſpeciatim prægrandis hujus ſpeciei ſedulo examinaſſe, nec tamen foramen potuiſſe detegere. Cum tamen multos poſt annos rem illi plane oſtendit Bakerus, priorem opinionem ſummo cum candore revocavit vir doctiſſimus, alteramque ſubſtituit; certas tantum ſpecies venenoſas eſſe, eas nempe quæ tubulatis forcipibus inſtructæ ſunt; ut in ſerpentibus evenit; quorum certæ tantum ſpecies veneno

veneno imbutæ ſunt ; illæ nempe quæ dentes tubulatos gerunt, *e. g.* Crotalus, Vipera, &c.

Ab oculis aliorum Inſectorum differunt longe Aranearum oculi, et pro diverſitate ſpecierum diverſum habent numerum et ſitum.

Species de qua jam agitur octo habet oculos, in formam pene oblongo-quadratam diſpoſitos. Horum duo intermedii reliquis grandiores ſunt, et plane rotundi ; cæteri in formam ovi effinguntur.

THE

BIRD-CATCHING SPIDER.

GENERIC CHARACTER.

Eight *Legs*.
Eight *Eyes*.
Mouth furniſhed with 2 hooks or holders.
Two jointed *Palpi* or *Feelers*, the tips of which (in the males) diſtinguiſh the ſex.
The *Abdomen* terminated by papillæ, or teats, through which the Inſect draws its thread.

SPECIFIC CHARACTER.

SPIDER with orbicular convex thorax with a tranſverſe central excavation.

Lin. Syſt. Nat. p. 1034.
Mer. Surin. tab. 18.

The common Spiders of Europe are frequently beheld with horror and averſion by thoſe who have not accuſtomed themſelves to an attentive ſurvey of the works of nature; but what are theſe when compared with the terrific magnitude of the gigantic ſpecies here exhibited! A ſpecies which is formidable not only to other inſects, but even to birds themſelves; whoſe fangs are equal in ſize to the talons of a hawk, and whoſe

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whoſe eyes are capable of being ſet in the manner of glaſſes and uſed as microſcopes. This enormous Spider is not uncommon in many parts of America, but it is principally found in South-America. It reſides amongſt trees, and frequently ſeizes on ſmall birds, which it deſtroys by ſucking their blood, after having firſt wounded them by its fangs, which inſtil a poiſonous fluid into the wound, in the manner of other Spiders. The ſlit or orifice near the tip of the fangs of Spiders, through which the poiſonous fluid is evacuated, and the exiſtence of which has afforded ſo much matter of doubt amongſt Naturaliſts, is in this ſpecies ſo viſible that it may be diſtinctly perceived without a glaſs.

To thoſe who are accuſtomed to microſcopical inveſtigations, and make uſe of the advantageous ſtructure of the opake microſcope, it may ſeem ſurpriſing that any doubt could ever have been entertained of the exiſtence of this foramen in the fangs of Spiders, ſince even in the common Houſe-Spider it is perfectly viſible by the aſſiſtance of the firſt or ſecond magnifier of Liberkun's microſcope; but it ſhould be conſidered that microſcopes of the uſual ſtructure are not calculated for ſhewing to advantage ſo ſmall an object, and which requires ſo favourable a light. Even Swammerdam and Roëſel could not diſcover it; and it is notorious that Mead in his Account of Poiſons, imagines Leewenhoek to have been miſtaken in ſuppoſing that the Spider evacuated its venom through a hole in its fangs; and declares that he himſelf had examined the fangs of ſeveral Spiders, and of this large one in

particular,

particular, without having been able to diſcover the foramen. The late Mr. Baker however, ſeveral years after, convinced him of its exiſtence. He then retracted his former ſentiment, and with great candour and judgment gave it as his opinion, that, as amongſt ſerpents, only ſome particular ſpecies are poiſonous, and have teeth that are perforated for the emiſſion of their poiſon, viz. the Rattle-Snake, the Viper, and others, ſo amongſt Spiders ſome kinds only may be poiſonous, viz. ſuch as are provided with perforated fangs.

The Eyes of Spiders differ very much from thoſe of moſt other inſects; and are different both in number and diſpoſition in the ſeveral ſpecies. The preſent ſpecies has eight eyes, which are diſpoſed ſomewhat in the form of an oblong ſquare. Of theſe the two middle ones are larger than the reſt, and perfectly round; the others are of an oval ſhape.

ALCEDO CRISTATA.

Character Genericus.

Roſtrum trigonum, craſſum, rectum, longum.
Lingua carnoſa, breviſſima, plana, acuta.
Pedes greſſorii, pleriſque.

Lin. Syſt. Nat. p. 178.
Claſſ: *Picæ.*

Character Specificus, &c.

ALCEDO brachyura ſubcriſtata cærulea, ſubtus ruſa, criſta nigro-undulata.

Lin. Syſt. Nat. p. 178.

Edwards. t. 336?

Le VINTSI.

Buffon. Oiſ. vol. VII. p. 205.

In genere Alcedinis exempla ſunt coloris varii et ſplendidiſſimi: inter omnes autem Alcedines eminet pulcherrima ſpecies in tabula depicta. Inter minores eſt ſui generis. Criſtam in vertice formoſam gerit hæc avicula quæ illi non parvo eſt ornamento. In inſula Amboyna apud Indos præcipue invenitur.

THE
CRESTED KINGFISHER.

GENERIC CHARACTER,

Bill trigonal, thick, ſtrait, long, ſharp-pointed.
Tongue fleſhy, very ſhort, flat, ſharp-pointed.
Feet (in moſt of the ſpecies) greſſorial, *i. e.* three toes forward, and one backward; and the three lower joints of the middle toe cloſely joined to thoſe of the outmoſt.

Linnæus and Pennant.
Claſs, *Picæ.*

SPECIFIC CHARACTER. &c.

SHORT-TAILED BLUE-CRESTED KINGFISHER, rufous beneath, the creſt undulalated with black. *Lin.*
Edwards, pl. 336?

Le VINTSI.
Buff. Hiſt. Oiſ. vol. VII. p. 205.

In the Kingfiſher genus, we have examples of the moſt ſtriking variety and brilliancy of colour, and perhaps, in this reſpect, no ſpecies can be found that exceeds the bird here repreſented. It is one of the ſmaller birds of its genus. Its beauty is ſingularly heightened by the elegant creſt with which the head is ornamented. It is a native of the iſland of Amboyna in the Eaſt-Indies.

GORGONIA FLABELLUM?

Character Genericus.

Flores Hydræ, ſparſi e poris lateralibus.
Stirps radicata, cornea, continuata, ramoſa; baſi explanata, cortice obducta.

Lin. Syſt. Nat. p. 1289.
Claſſ: *Vermes.*

Character Specificus, &c.

GORGONIA reticulata ramis interne compreſſis, cortice flavo?

Lin. Syſt. Nat. p. 1293.

FRUTEX MARINUS ELEGANTISSIMUS?

Cluſ. exot. 120.

FLABELLUM VENERIS.

Elliſ. corall. p. 61. t. 26.

De corallii in hac tabula depicti natura et ortu, nomine Flabelli marini cogniti, plurimum diſceptavere Philoſophi; incerti quo in ordine entium debeat reponi. Multas hujus claſſis ſpecies ſcriptores antiqui et recentiores ut vegetabilia deſcripſerunt; at a ſeriis et ſedulis inveſtigationibus doctorum hominum tandem compertum eſt vera eſſe animalia, vegetabilia tantum ſtructura

ſtructura ſua referentia, ab animalium incolentium labore ita efficta. Vetat inſtituti mei brevitas varia in hanc quæſtionem Phyſicorum argumenta proferre. Qui plura deſiderat Acta Philoſophica Anglica et Gallica, præcipue vero ſcripta Elliſii conſulat. Subſtantias omnes marinas, communiter nomine Coralliorum et Corallinarum diſtinctas, cum paucis aliis diverſæ indolis animalibus, digerit Linnæus in duas diviſiones, Lithophyta ſcilicet et Zoophyta. In Zoophytis animalis natura multo magis præpollet : nam hæ ſubſtantiæ (ut et nomen vult) ex animalibus et vegetabilibus compoſitæ ſunt : in Lithophytis materia calcaria et lapidea magis dominatur. Lithophyta corallium quod incolunt revera ædificaſſe creduntur, ut patet in madreporis et in aliis coralliis lapidoſis. Zoophyta autem ut putat Linnæus, ſunt veræ plantæ, floribus animatis præditæ, peculiari Naturæ conſilio a ramuſculis in formam polyporum ſe pandentibus. Dubitari merito poteſt ſitne hæc Linnæi idea vere Philoſophica. Veriſimilior fortaſſe Elliſii opinio, qui vult partem vulgo vegetabilem reputatam, eſſe meram baſin, ab animalibus incolentibus effictam.

Hæc animalia forma ſua ad genus Hydræ, ſeu Polypi accedunt. Genus Gorgonia, ad quod præſens ſpecies pertinet, eſt forte omnium Zoophytorum elegantiſſimum. Plurimas continet ſpecies, inter quas aliæ ſunt ſimplices, ſeu vix ramoſæ ; aliæ valde ramoſæ, et aliæ etiam reticulatæ ; ſub quibus hæc ipſa ſpecies militat.

Formoſum hoc corallium, in littoribus maris Mediterranei, in littoribus etiam Indicis et Americanis reperitur,

reperitur, rupibus aliiſque baſin ſecuram præbentibus adnatum.

In magnam ſæpe creſcit molem, duorum ſcilicet vel trium pedum: frequenter etiam more elegantiſſimo proliferum conſpicitur. Color ejus generalis purpureus eſt; interdum flavus; nec raro utriſque hiſce coloribus variatus. Pars ejus vegetabilis eſt coloris obſcure cornei ſeu fuſci; pars calcaria ſeu carnea, quam incolunt animalia, eſt, ut antea dictum, vel flava vel purpurea, et undique tuberculis parvis creberrime obſita, intra quæ, ſi recens ſit Zoophytum, vivunt Hydræ parvulæ.

Fig. 1. Pars ramuli leviter aucti, cum tuberculis, ſeu Hydrarum cellulis.

Fig. 2. Hydra ipſa, magnitudine aucta.

THE
FAN GORGONIA,
OR
VENUS's FAN.

Generic Character.

The *Flowers* Polypes, diſperſed from the lateral branches.

The *Stem* rooted, horny, continued, branchy; flattened at the baſe, covered with a bark.

Lin.

Specific Character, &c.

RETICULATED GORGONIA, with the ramifications internally compreſſed, and the bark yellow (or purple).

Lin.

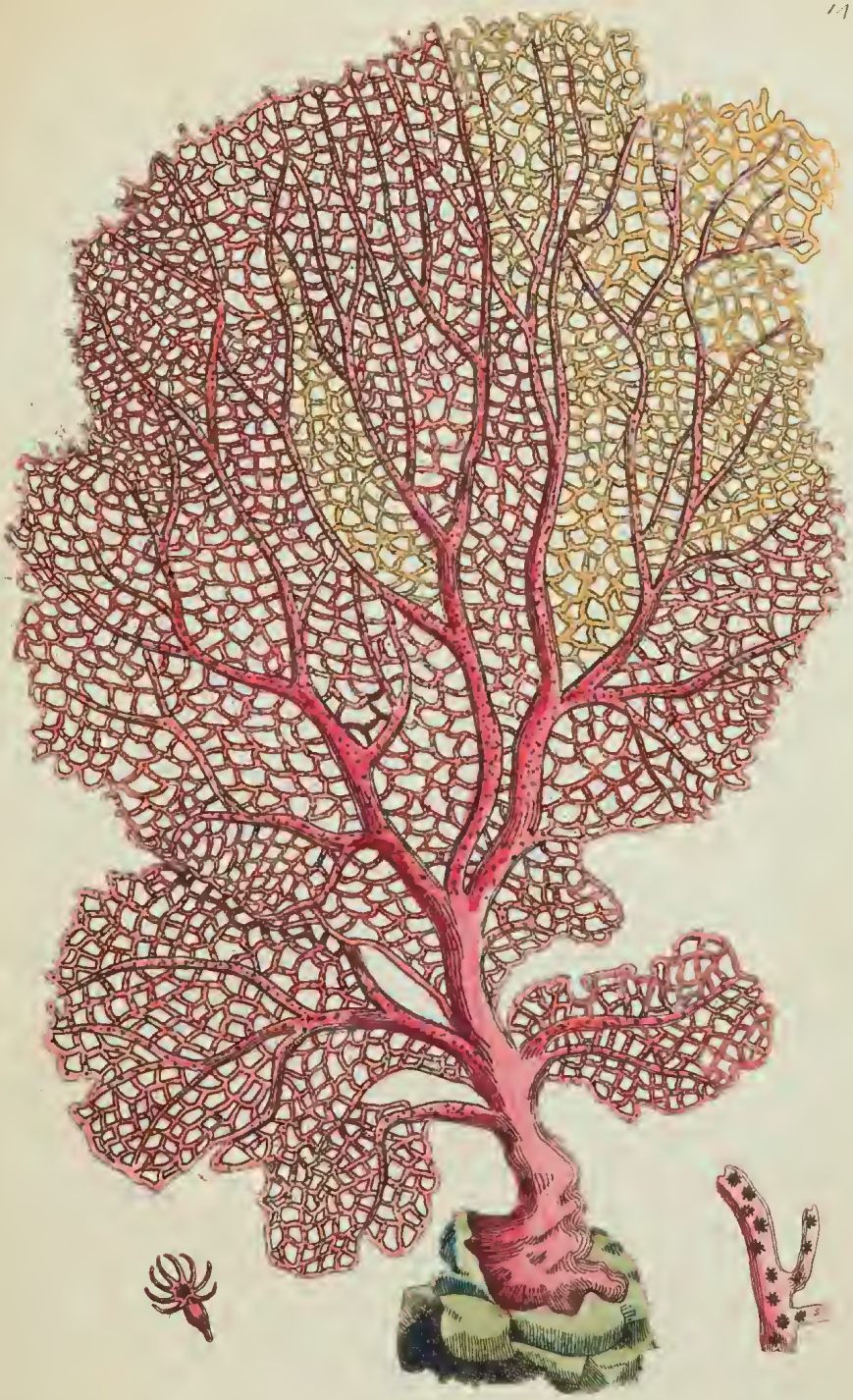
VENUS's FAN.

Ellis's Zoophytes, p. 92.

SEA-FAN.

Ellis's Corallines, p. 60.

The object figured on this plate, and generally known by the name of the Sea-Fan, is one of thoſe numerous productions which are not more remarkable for the ſingularity of their appearance, than for the different opinions



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opinions which have ariſen amongſt philoſophical enquirers, relative to their real nature, and the rank which they ſhould hold in the ſcale of beings. Many of the ſpecies of this claſs have, by the ancient writers and ſeveral of the moderns likewiſe, been deſcribed as vegetables; but from the unwearied attention of ſome learned naturaliſts to this ſubject, it was at length diſcovered, and ſeems now pretty generally admitted, that they are in reality of an animal nature, and that the ſtrong reſemblance which many of them bear to vegetables, is to be conſidered as entirely owing to the operation of the animals which formed them.

In a publication of this nature, it will not be expected, that a particular inveſtigation of the arguments on both ſides of this curious ſubject ſhould be introduced: we ſhall therefore refer ſuch of our readers who may wiſh for more circumſtantial deſcriptions, to the Philoſophical Tranſactions, the Memoirs of the French Academy; and more particularly to the works of the late Mr. Ellis, where the fulleſt information may be found.

The whole tribe of the marine ſubſtances, known by the general names of Corals and Corallines, (with ſome animals of a different kind,) are arranged in the Linnæan Syſtem under two diviſions, *viz.* Lithophyta and Zoophyta. In the latter of theſe, or Zoophytes, the animal nature predominates more apparently than in the former; and indeed theſe beings (as the name imports) ſeem rather to be a compoſition of animal and vegetable; whereas in the Lithophytes, or other Linnæan diviſion, the ſtony or calcareous part predominates

nates greatly over the animal one. The Lithophytes are conſidered as the actual builders of the ſubſtance which they appear to inhabit, as in the Madrepores, and other hard or ſtony corals; but the Zoophytes are (according to the Linnæan idea) to be conſidered as a kind of real vegetables, furniſhed with animated flowers, which, by a peculiar proceſs of nature, diſplay themſelves from the ramifications in the form of real animals of the Polype tribe.

Whether this idea be ſtrictly philoſophical may well be queſtioned; and perhaps the opinion of Mr. Ellis, *viz.* that the ramified or ſuppoſed vegetable part, is a meer baſis or ſupport formed by the animals which inhabit it, is the moſt probable opinion of the two.

Theſe animals are generally of an appearance more or leſs reſembling the Hydra, or Polype genus. The genus Gorgonia, to which our preſent ſubject belongs, is one of the moſt elegant of the Zoophyte tribe. It contains a great number of ſpecies, ſome of which are nearly of a ſimple or unbranched ſtructure, while others are very much ramified, and ſome are alſo reticulated; it is in this latter diviſion of the genus, that this ſpecies is to be arranged.

This beautiful coral is found on the coaſts of the Mediterranean, and thoſe of both the Indies; adhering to rocks or other ſubſtances, which may afford it a ſteady baſis.

It is frequently of a very large ſize, *viz.* two or three feet in length; and it is often proliferous in a moſt elegant manner. Its general colour is a beautiful purple, tinged with yellowiſh; but in point of co-

lour

lour, it varies extremely; ſome ſpecimens being ſeen almoſt all purple, others all yellow, or variegated with purple branches and veins.

The vegetable part or ſtem is of a very dark horn-colour, or brown; the animal part conſiſts of the calcareous yellow or purple incruſtation; thickly beſet with ſmall protuberances, in each of which is a cavity, which, (in the recent coral) is the habitation of a ſmall Polype.

Fig. 1. A ſmall detached part, ſlightly magnified, ſhewing the cells in which the Polypes reſide.

Fig. 2. The Polype itſelf ſlightly magnified.

PAPILIO PRIAMUS.

Character Genericus.

Antennæ apicem verſus craſſiores, ſæpius clavato-capitatæ.

Alæ (ſedentis) erectæ ſurſumque conniventes, (*Volatu* diurno.)

Lin. Syſt. Nat. p. 744.

Character Specificus, &c.

PAPILIO alis denticulatis tomentoſis ſupra viridibus; inſlitis atris; poſticis maculis ſex nigris.

Lin. Syſt. Nat. p. 744.

PAPILIO AMBOINENSIS viridi et nigro-holoſericus inſignis.

Vincent. Muſ. 10.

PAPILIO PRIAMUS.

Clerk. Icon. Inſ. rar. t. 17.

N. B. Antennæ in hac ſpecie non clavato-capitatæ, ſed filiformes, et acuminatæ.

Si illuſtriſſimo Linnæo aſſentimur, hæc Papilionis ſpecies omnium pulcherrima reputanda eſt. "Papili-"onum omnium (inquit Linnæus) princeps longe au-"guſtiſſimus

"guſtiſſimus, totus holoſericus, ut dubitem pulchrius "quidquam a natura in inſectis productum". In inſula Amboyna habitat, et inter lautiſſimas ſimul ac pretioſiſſimas ſpecies cenſetur. Color ejus viridis ita eſt formoſus, ut omnem alium virorem ſuperet, et ſericum molliſſimum et nitidiſſimum longe antecellat: notandum etiam eſt quod aureus quidam fulgor cum virore commiſtus, illi alarum parti quæ aterrimi eſt coloris, pulcherrime opponitur.

Papilio Priamus primum locum obtinet inter duas Linnæanas diviſiones Papilionum majorum in Equites Trojanos et Achivos. Hæ duæ ſectiones Papilionum ab omnibus aliis hujus generis inſectis diſtinguuntur forma peculiari alarum ſuperiorum, quæ ab angulo poſtico ad apicem longiores ſunt quam ad baſin.

Equites Troës plerumque maculis ex utraque parte thoracis ſanguineis notati ſunt. Plerumque etiam colores hujus diviſiones in nigrum potiſſimum vergunt.

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PRIAMUS,

OR THE

IMPERIAL TROJAN.

Generic Character.

The *Antennæ* or *Horns* thickening towards the upper part, and generally terminating in a knob, or club-shaped tip.

The *Wings* (when sitting) erect, and meeting upwards (*Flight* diurnal.)

Lin. Syst. Nat. p. 744.

Specific Character.

BUTTERFLY with black and green wings, with six (or four) black spots on the lower wings.

N. B. The Antennæ in this species are not thick at their extremities, but tiftform and sharpened.

If we allow the opinion of Linnæus to be decisive, this is, of all the Papilionaceous tribe, the most beautiful insect. "It is (says Linnæus) by far the most au-"gust of all the Papilios; being all over of a silky ap-"pearance, and it may be doubted whether nature has "produced any object more beautiful amongst insects".

It

It is a native of the iſland of Amboyna, and it is regarded as one of the moſt curious and valuable ſpecies yet known. Nothing can exceed the richneſs of the green colour, which in particular lights, is not only of an appearance far ſuperior to the fineſt ſattin, but has alſo a golden tinge diffuſed through it, which forms the moſt beautiful contraſt with the deep black of the reſt of the wings.

The Papilio Priamus ſtands foremoſt amongſt the Linnæan diviſion of the larger butterflies into the two ſections of Trojan and Grecian Warriors or Equites. Theſe two ſections of butterflies are diſtinguiſhed from all others by the remarkable ſhape or outline of their upper wings, which are longer if meaſured from the hinder corner to their anterior extremity, than from the ſame point to their baſe. The Trojan Equites are generally diſtinguiſhed by red or blood-coloured ſpots on each ſide their breaſts: the prevailing colour alſo of this diviſion is generally black.

PSITTACUS PORPHYRURUS.

Character Genericus.

Roſtrum aduncum: mandibula ſuperiore mobili, cera inſtructa.
Nares in roſtri baſi.
Lingua carnoſa, obtuſa, integra.
Pedes ſcanſorii.

Lin. Syſt. Nat. p. 139.

Character Specificus.

PSITTACUS brachyurus viridis, uropygio cyaneo, rectricibus (exceptis intermediis duabus) purpureis.

Obſ. Caudæ tectrices valde productæ; rectrices apice ſubquadratæ, nigro fimbriatæ.

Latham. vol. 1. p. 315.

Formoſam hanc aviculam, Cayanam in America Auſtrali incolentem, colores decorant præter ſolitum vividi et ſplendentes. Præcipue diſtinguitur hæc ſpecies rectricibus, ſeu caudæ pennis purpureis; exceptis intermediis, quæ virent. Species ſui generis fere rariſſima eſt, et (ut puto) nunc primum pictura in publicum evulgata.

THE

PURPLE-TAILED PARRAKEET.

Generic Character.

Bill hooked. Upper mandible moveable.
Noſtrils round, placed in the baſe of the bill.
Tongue fleſhy, broad, blunt at the end.
Legs ſhort. Toes formed for climbing, *viz.* two backward and two forward.

Linnæus and *Pennant.*

Specific Character, &c.

SHORT-TAILED GREEN PARRAKEET, with the rump blue, and the tail (except the two middle feathers) purple.

Obſ. The coverts of the tail are very long, and the tail-feathers are ſquariſh at the tips, and fringed with black.

PURPLE-TAILED PARRAKEET.

Latham. vol. 1. p. 315.

The colours of this moſt beautiful ſpecies, which is a native of Cayenne in South America, are of uncommon brilliancy. It is principally diſtinguiſhed by the purple rectrices, or tail-feathers; except the two middle ones, which are green. It is one of the rareſt birds of its genus, and we believe this to be the firſt figure of it yet publiſhed.

London. Published Jan. 1. 1830, by F. P. Nodder & Co.

W. Lizars. Edin.

RANA PIPA.

Character Genericus.

Corpus tetrapodum, nudum, ecaudatum.

Lin. Syſt. Nat. p. 354.

Character Specificus, &c.

RANA digitis anticis muticis quadridentais, poſticis unguiculatis.

Lin. Syſt. Nat. p. 354.

Seb. Muſ. 1. t. 77.

Mer. Sur. t. 59.

Valliſn. Nat. 1. t. 41. *f.* 6.

Solent communes ranæ fœminæ ova ſua in foſſis et aquis ſtagnantibus, punctis mille nigris ſimilia, glutine copioſo contenta, primo vere deponere. Puncta hæc, ranarum futurarum veri embryones, elapſis paucis diebus, mole augentur, colore ſunt minus fuſco, e glutine circumfuſo emergunt, et in aquis libere natant. Gyrinorum nomine nunc probe cognoſcuntur, et corpore ſunt prægrandi, ſine ullis pedum veſtigiis, cauda autem maxima pinniformi: ex utraque etiam parte thoracis apparent branchiæ ramoſæ, ſeu organa reſpirationis. Elapſo longo tempore, illiſque nihil niſi magnitudine mutatis, branchiæ ramoſæ decidunt, pedes anteriores e cute emergunt, et paulo poſt pedes

posteriores. Vivit adhuc animal in aqua in qua primum nascebatur, cauda etiam remanente. Post aliquot tamen septimanas hæc quoque sensim decrescens, tandem evanescit: jamque rana perfecta in terram progreditur, abhinc pro arbitrio vel in humo vel in aquis degens.

Talis est ranarum omnium Europœarum transformationis series (exceptis aliquot differentiis in figura et dispositione ovorum in variis speciebus). At vero in America Australi hujus generis est species, quæ inter omnia ludentis Naturæ miracula primum sibi locum videtur vindicare. Pullos enim more prorsus insolito e cellulis, seu concavis tuberculis in dorso sitis excludit. Differt igitur hæc ranæ species, utpote vivipara, ab omnibus sui generis, nec non ab aliis animalibus, insolito gestandi et parturiendi modo.

Surinamiam incolit rana hæc monstrosa. Color illi (saltem in speciminibus quæ ad nos pervenerunt) est plerumque plus minus fuscus, et interdum pene nigricans; interdum multo pallidior. Animal est immodice deforme; caput antica parte acuminatum gerens, rostro velut suillo. Pedum anticorum digiti extremitates habent quadrifidas.

Affirmat Camper, vir anatomes peritissimus, Pipam uterum, seu ovarium internum habere, ovaque sua, eodem modo quo et alia hujus generis animalia, excludere; et, si qua fides Fermino, (qui se testem oculatum tam miræ rei fuisse asserit,) mas ova a fœmina deposita pedibus congregat, dorsoque fœminæ imponit, quæ fecundata, intra cellulas dorsuales illa recipit, et occludit, donec paulatim perfectam ranæ formam adepta, iterum excludantur.

Animal

Animal hoc tam ſingulare unicum tantum partum edere voluit Natura, nec cum aliis ſui generis ſpeciebus collatum, fœcundum haberi poteſt; Pipa enim quam obſervavit FERMINUS, quinque diebus ſeptuaginta quinque pullos produxit.

THE
PIPA,
OR
TOAD OF SURINAM.

GENERIC CHARACTER.

Body four-footed, naked, without tail.

Lin. Syſt. Nat.

SPECIFIC CHARACTER, &c.

FROG with the toes of the fore-feet quadrifid at their extremities; the hind-feet webbed and clawed.

Seba. vol. 1. t. 77.

Mer. Sur. t. 59.

The ſpawn of the common frog is depoſited in large heaps or cluſters by the females in ſtagnant ſhallow waters and ditches in the early part of the ſpring; it conſiſts of a congeries of black globular points, ſurrounded with a conſiderable depth of gelatinous ſubſtance. The black points are no other than the real embryos of the future frogs; in a few days they enlarge, change to a ſomewhat lighter colour, and break through the ſurrounding gluten, and ſwim in the wa-

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ter. In this ſtate they are well known by the name of tadpoles, and conſiſt of a very large body, with no appearance of legs, but furniſhed with a very remarkable fin-ſhaped tail, and on each ſide the breaſt is a ſet of ramified branchiæ, or reſpiratory organs. After having lived for a conſiderable ſpace in this ſtate, with little other change of appearance than an increaſe of ſize, the ramified parts drop away, and the fore-legs appear; theſe are ſoon ſucceeded by the hinder ones, and the animal ſtill continues to inhabit the water in which it was hatched; it is ſtill furniſhed with the tail, which at this period of its growth makes a conſpicuous appearance; but, after ſome weeks this alſo ſhortens by degrees, and the animal, having attained its perfect figure, ventures upon land, and from that time is at pleaſure an inhabitant of either element.

Such is the change (with ſome few variations as to the figure and diſpoſition of the ſpawn in the different ſpecies) which the animals of this genus undergo in all the kinds which belong to Europe; but in South America we have an inſtance in a ſpecies of this ſame genus, of one of the moſt extraordinary particularities which the whole compaſs of Natural Hiſtory can exhibit: for in this animal, (which is called the Pipa, or Surinam Toad,) as if by a caprice of nature, unparallelled by any other known animal, and diametrically oppoſite to the eſtabliſhed laws of production in other creatures, the young are produced, perfectly formed, out of cells, or hollow tubercles placed on the back of the female. This ſpecies therefore forms an exception

tion to the reſt of the Frog-genus in being viviparous, and is likewiſe an exception to the general way of production in all other larger animals.

This moſt extraordinary creature is a native of Surinam. Its colour, (at leaſt in ſuch ſpecimens as are brought over to Europe) varies conſiderably in different ſubjects; but it is generally brown, more or leſs deep, and in ſome, even approaches to blackneſs. It is a ſpecies of moſt ſtriking deformity; the head is of a ſort of pointed ſhape, the ſnout ſomewhat like that of a hog; and the toes of the fore-feet are at their extremities divided into four ſmall proceſſes.

I ſhould not omit to obſerve, that according to the celebrated anatomiſt Camper, the Pipa is furniſhed with an internal uterus, or ovarium, and excludes its ova in the manner of other animals of this genus; and, from the obſervations of Fermin, (who declares he was an eye witneſs of the ſtrange proceſs,) it appears, that the male, after the excluſion of the ova, collects the whole heap, with his paws, and depoſits it on the back of the female, where, (after impregnation) they are received into the cellules, which cloſe over them, and in which they gradually arrive at their complete form, and are then again excluded.

This ſingular animal is calculated by nature for bearing young but once; and, compared with others of its genus, it cannot be regarded as very prolific; the number which the female Pipa, obſerved by Fermin produced, was ſeventy-five, which were all excluded in the ſpace of five days.

SPHINX OCELLATA.

Character Genericus.

Antennæ medio craſſiores, ſeu utraque extremitate attenuatæ, ſubpriſmaticæ.

Alæ deflexæ (*Volatu* graviore veſpertino ſeu matutino.)

Lin. Syſt. Nat. p. 796.

Character Specificus, &c.

SPHINX alis repandis: poſticis ocellatis.

Lin. Syſt. Nat. p. 796.

SPHINX alis angulatis: poſticis ruſis, ocello cœruleo.

Fabr. Syſt. Ent. p. 536.

Scopoli. Entomol. Carniol. p. 182.

Plurimas quæ inſectis hujus claſſis accidunt, mutationes peculiari quadam lætitia ſolemus contemplari phyſici. Quamvis enim philoſopho rem penitus intuenti ſatis conſtet animal idem eſſe, nec adeo immutari ut fiat alterum; ſed partes tantum gradatim explicari quæ ſub forma inſecti longe aliter apparentis latuerunt; non poſſumus tamen non admirari, noſtramque e mortuis reſuſcitationem Papilionis metamorphoſi plane obumbratam agnoſcere.

Antiqui

Antiqui ſane varias Papilionum vices, illoſque a morte temporaria redivivos intuentes, (ut veriſimile eſt) quaſi animæ ſymbolum habuerunt. Vox enim ψυχη et pro anima et papilione uſurpatur. Recentiores Phyſici hiſtoriam naturalem ad religionis uſum recte convertentes, ab hiſce inſectis mire adeo permutatis humani corporis reſurrectionem elucidare conantur. Exemplum tamen minus aptum ſeligunt, nempe Phalænam Mori, ſive Sericam; utpote quæ nec ſub terra immutatur, nec a morte accita, notabili eſt pulchritudine. At vero, inter omnia Naturæ phænomena, Sphinx, de qua jam agitur grandis et ultimæ humani corporis transformationis exemplum jure habeatur vividiſſimum. Eruca enim Sphingis, pabulo ſuo ſatiata, ſub terra alte ſe occulit, ibi exuvias ponit, et veluti mortua menſes multos jacet: his exactis, iterum ab humo attollitur: tumuli clauſtra deſerit, et inter animalia unum e formoſiſſimis erumpit. Ipſius certe Apoſtoli idea, merito ab omnibus laudata, quaque ad popularem captum nulla poteſt eſſe accommodatior, philoſopho minus apta et vivida videtur, quam ejuſdem myſterii elucidatio, de variis hujus inſecti vicibus deſumpta. Nec ſane in omnibus ſuis operibus aliud clarius exemplum profert Natura.

De hac metamorphoſi ita cecinit poeta anonymus.

Segnis et informis ſerpens eruca per herbas
  Innocue viridi ſuſtinet ora cibo.
Jam conviva ſatur, pertæſa et lumina vitæ
  Quærit in effoſſa ponere corpus humo.
Exuit et veſtem, ac cæcis commiſſa latebris
  Dormit, et in placida morte quieta manet.

Hyberni

Hyberni ſtruſtra fugiunt per paſcua venti,
Altaque nix rigido jam tenet arva gelu.
Illa nihil ſentit, tumuloque occluſa profundo
Dormit, et a vento tuta, et ab hoſte jacet.
At ſimul auratis aperit cum cornibus annum
Taurus, et a zephyris terra ſoluta viret,
Cum frondent ſylvæ, cum formoſiſſimus annus,
En! tumulo ſurgit pulchra phalæna ſuo!
Surgit, et ut veteris rumpit jam clauſtra ſepulchri
Miratur ſpeciem corporis ipſa ſui.
Quam formoſa vigens! O quantum diſtat ab illa
Viderat errantem quam prior annus humi!
Alarum ornatum, gemmantes aſpice ocellos!
Jam pluma in molli corpore multa nitet:
Mille trahens varios adverſo ſole colores
Evolat, et cæcos deſpicit inde rogos.
Blandaque purpureis ſubvecta per aëra pennis
Per nemora et varios expatiatur agros.
Inque vices lectiſque roſis violiſque ſuperbe
Incubat, et forma vincit utraſque ſua.

Scilicet et noſtri reputentur vana ſepulchri
Præmia, cum tali teſte probata manent?

Sphinx Ocellata, quam in adjuncta tabula pro exemplo generis depingi curavimus, inſectorum quæ in Britannia naſcuntur, ſpecies eſt formoſiſſima. Larva ejus ſuper ſalices plerumque viſa, ſub initio menſis Augŭſti magnitudinem plenam adepta, ſub terra ſeſe ſepelit, et in chryſalidem mutatur, e qua, ineunte ſequente Junio, phalæna ipſa erumpit.

THE OCELLATED SPHINX, OR EYED HAWK-MOTH.

GENERIC CHARACTER,

Antennæ thickeſt towards the middle, or attenuated at each extremity.

Wings deflected, *i. e.* ſloping downwards on each ſide, when cloſed. (*Flight* generally in the morning and evening.)

SPECIFIC CHARACTER.

SPHINX with repandous wings: the lower ones ocellated.

Lin. Syſt. Nat.

The EYED HAWK-MOTH.

Albin. Inſ. p. 8. f. 2.

The alteration of form during the different periods of life, which the inſects of the Papilionaceous tribe undergo, affords a ſubject of the moſt pleaſing contemplation to the mind of the Naturaliſt; and though a deeply philoſophical ſurvey demonſtrates that there is

London, Published 1st Jan.y 1748 by E. Newbery at the Corner of St Paul's Church Yard.

is no real or abſolute change produced in the identity of the creature itſelf, or that it is in reality only the gradual and progreſſive evolution of parts before concealed, and which lay maſqued under the form of an inſect of a widely different appearance, yet it is juſtly viewed with the higheſt admiration, and even generally acknowledged as in the moſt lively manner typical of the laſt eventful change.

If any regard is to be paid to a ſimilarity of names, it ſhould ſeem that the ancients were ſufficiently ſtruck with the transformations of the butterfly, and its revival from a ſeeming temporary death, as to have conſidered it as an emblem of the ſoul, the Greek word ψυχη ſignifying both the ſoul and a butterfly.

Modern Natural Hiſtorians, impreſſed with the ſame idea, and laudably ſolicitous to apply it as an illuſtration of the awful myſtery revealed in the ſacred writings, have drawn their alluſions to it from the dormant condition of the papilionaceous inſects during their ſtate of chryſalis, and their reſuſcitation from it: but they have unfortunately choſen a ſpecies the leaſt proper for the purpoſe, *viz.* the Silkworm; a ſpecies which neither undergoes its change under the ſurface of the earth, nor, when emerged from its tomb, is it an inſect of any remarkable beauty; but the larva, or caterpillar of the Sphinx, when ſatiate of the food allotted to it during that ſtate, retires to a very conſiderable depth beneath the ſurface of the ground, where it diveſts itſelf of all appearance of its former ſtate, and continues buried for ſeveral months, then riſes to the ſurface, and burſts from the confinement of its tomb,

and

and commences a being of powers ſo comparatively exalted, and of beauty ſo ſuperior, as to be one of the moſt elegant of the whole inſect tribe.

Even the animated illuſtration taken from the vegetable world, ſo juſtly admired, as beſt calculated for general apprehenſion, muſt yield in the force of its ſimilitude to that drawn from the inſect's life, ſince Nature exhibits few phænomena that can equal ſo wonderful a transformation.

This metamorphoſis is thus deſcribed by an anonymous poet.

The helpleſs crawling caterpillar trace,
From the firſt period of his reptile race.
Cloth'd in diſhonour, on the leafy ſpray
Unſeen he wears his ſilent hours away.
'Till ſatiate grown of all that life ſupplies,
Self-taught, the voluntary martyr dies.
Deep under earth his darkling courſe he bends,
And to the tomb, a willing gueſt, deſcends.
There long ſecluded in his lonely cell,
Forgets the ſun, and bids the world farewel.
O'er the wide waſte the wintry tempeſts reign,
And driving ſnows uſurp the frozen plain:
In vain the tempeſt beats, the whirlwind blows;
No ſtorms can violate his grave's repoſe.
But when revolving months have won their way,
When ſmile the woods, and when the zephyrs play,
When laughs the vivid world in ſummer's bloom,
He burſts, and flies triumphant from the tomb.

And

And while his new-born beauties he diſplays,
With conſcious joy his alter'd form ſurveys.
Mark, while he moves amid the ſunny beam,
O'er his ſoft wings the varying luſtre gleam.
Launch'd into air, on purple plumes he ſoars,
Gay Nature's face with wanton glance explores;
Proud of his various beauties wings his way,
And ſpoils the faireſt flow'rs, himſelf more fair
than they.

And deems weak Man the future promiſe vain,
When Worms can die, and glorious riſe again?

The Sphinx Ocellata, figured on the annexed plate, as an example of the genus, is perhaps the moſt beautiful inſect which this country produces. The caterpillar is generally found on willows. It arrives at its full ſize towards the beginning of Auguſt, when it buries itſelf, and changes to a chryſalis, from which, about the firſt week in the following June, proceeds the moth.

CERTHIA FAMOSA.

Character Genericus.

Roſtrum arcuatum, tenue, ſubtrigonum, acutum.
Lingua acuta.
Pedes ambulatorii.

Lin. Syſt. Nat. p. 184.
Picæ.

Character Specificus.

CERTHIA rectricibus intermediis duabus longiſſimis, corpore viridi nitente, axillis luteis, loris nigris.

Lin. Syſt. Nat. p. 187.

Certhiæ genus numeroſum varias ſpecies continet coloribus ipſos Trochilos ſplendore æmulantes. Species jam depicta inter majores ſui generis exſtat. Color ejus communis eſt perviridis, cupreo quodam ſplendore læte ſuper collum ac dorſum diffuſo. Roſtrum longiſſimum eſt. Axillæ, ſive partes humerorum inferiores ſunt flavæ, partes autem exteriores, ſeu tectrices nigricant, plumis tamen margine viridi cinctis. Remiges, ſeu pennæ alarum longiores, nec non cauda, ſunt atræ, margine etiam viridi cinctæ. Avis eſt Africana, et in Promontorio Bonæ Spei invenitur.

THE

SHINING CREEPER.

Generic Character.

Bill ſlender, incurvated. and ſharp-pointed.
Tongue differing in ſhape in the different ſpecies.
Legs moderately ſtout.
Toes placed 3 before, and 1 behind; back toe large: claws hooked and long.

Linnæus. Latham. Pennant.

Specific Character, &c.

CREEPER with the 2 middle tail-feathers very long, the body of a ſhining green, the under wing-coverts yellow, the lores, (*i. e.* the ſpaces between the bill and eye on each ſide) black.

Lin.

FAMOUS CREEPER.

Latham. vol. 1. p. 720.

The very numerous genus Certhia contains ſeveral ſpecies whoſe colours are equal in ſplendor to the Humming-Birds. The ſpecies here repreſented is one of the largeſt of the genus. Its general colour is a rich

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rich deep green, with a very ſtrong tinge of copper-colour, which is moſt predominant on the neck and back. The bill is very long. The under parts of the ſhoulders, or axillæ, are yellow, the outward parts black, edged with green. The long feathers of the wings, and the tail, are alſo black with green margins.

It is an African bird, and is found at the Cape of Good Hope.

HYDRA VIRIDIS.

Character Genericus.

Flos. Os terminale, cinctum *Cirris* ſetaceis.
Stirps vaga, gelatinoſa, uniflora. baſi ſe affigens.
Lin. Syſt. Nat. p. 1320.
Claſſ. *Vermes.* Ord. *Zoophyta.*

Character Specificus, &c.

HYDRA tentaculis ſubdenis brevioribus.
Lin. Syſt. Nat. p. 1320.

HYDRA VIRIDISSIMA.
Pall. Zooph. 3.
Leewenhoek. Act. Angl. vol. 23. p. 1494.

Ecce! redundabit fœcundo vulnere vermis,
Fertilis et damnis dives ab ipſa ſuis!

Inter miracula Naturæ juſte referuntur variæ generis Hydræ ſpecies. Tam ultra fidem ſingulares ſunt earum vita, et propagandi modus, præſertim facultas quam habent vel in fruſtula diſſectæ repullulandi, ut in ſummo hærerent dubio Philoſophi; nec horum animalium hiſtoria plenam fidem adepta ſit, donec experimentis a ſolertiſſimis Phyſicis iterum iterumque factis

factis et omnibus modis variatis, proprietates earum miræ, et primo viſu impoſſibiles, tandem extra omnem dubitationem probatæ eſſent.

Cum in hoc opere viſum ſit, res breviter ut poſſumus, proponere, non longis ambagibus hiſtoriam hujus inſecti percurremus.

Hydra eſt animal aquaticum, cujus variæ ſunt ſpecies; quarum quæ maxime vulgaris eſt, in tabula depingitur, Hydra nempe viridis Linnæi. In aquis degit imperturbatis, plerumque in foſſulis: in rivulis etiam per campos ductis frequens reperitur; præcipue menſibus Martii et Aprilis. Cauda ſe affigit caulibus plantarum aquaticarum, et paginis inferioribus foliorum. Corpore eſt longo, tubuloſo: capite tentaculis octo ſeu decem longis, os cingentibus inſtructo. Corpus ita contrahere poteſt territa, ut globulum repræſentet; cauſa vero timoris dempta, rurſus in priſtinam longitudinem ſe explicat. Animal valde eſt vorax; vermiculos aliaque aquas incolentia animalia prædatur. Cum vermiculus, aut aquaticum aliud animal ad Hydram parum fauſte accedit, dicto citius eum arripit, brachiis ſeu tentaculis conſtringit, ad os attrahit, et ut anguis ranam inhaurit. Ano caret Hydra: omne igitur quod vorat, abſorbtis humoribus nutritiis, ab ore ejicit.

Vermiculum bis vel ter ſeipſam magnitudine ſuperantem devorare facile poteſt; quod licet plane incredibile videri poſſit, notandum tamen eſt Hydram eſſe corpore valde tenſili, et pro rei exigentia mirum in modum dilatato. Hydræ vegetatione ſeſe propagant: junior enim vel duæ vel tres juniores e lateribus parentis erumpunt, ipſæ etiam haud raro fœcundæ antequam

tequam parentem deſerunt: ut duas vel tres generationes ſimul uni animaliad hærentes videre ſit. Maxime autem omnium mirabile adhuc indictum eſt; nempe quod Hydra in partes diſſecta, non deſtructa ſed multiplicata eſt vulneribus ſuis; fabulam de celeberrima antiquorum Hydra veriſſimam reddens,

"Fertilis, et damnis dives ab ipſa ſuis."

Hydra non præter ſolitum magna commode in tres partes dividi poteſt: nempe forficem inſinuando intra vitrum in quo ſervatur Hydra, et arrepta occaſione, ad extremum extenſam dividendo; partem etiam poſteriorem cum ſe rurſus extenderit, diſſecando. Hoc facto, pars poſterior novum caput cum tentaculis producet; anterior pars novam caudam, et media pars novum caput cum tentaculis et nova cauda: elapſiſque paucis diebus, omnes æque erunt integræ ac ſi manſiſſent invulneratæ. Ut verbo dicam, Hydræ omnibus modis dividi poſſunt ſine injuria, et moleſtiam moramque frequentium experimentorum renatæ ſatis remunerabunt. Hydram viridem, utpote ſpeciem apud nos vulgatiſſimam, pro exemplo ſelegi: communis ejus longitudo eſt a quadrante unciæ ad ſemiunciam, excluſis tentaculis; interdum tamen multo major et longior conſpicitur. Mirum hoc animal a Leewenhoeckio circiter finem centuriæ jam elapſæ detectum eſt, qui tamen ejus proprietates ignoravit. Oblitum videtur eſſe poſt Leewenhoeckium uſque ad annum milleſimum ſeptingenteſimum quadrageſimum, cum iterum a Domino Trembley repertum eſt; qui innumeris experimentis, miras omnes qualitates, et præſertim repullulandi facultatem in lucem protulit. Experimen-

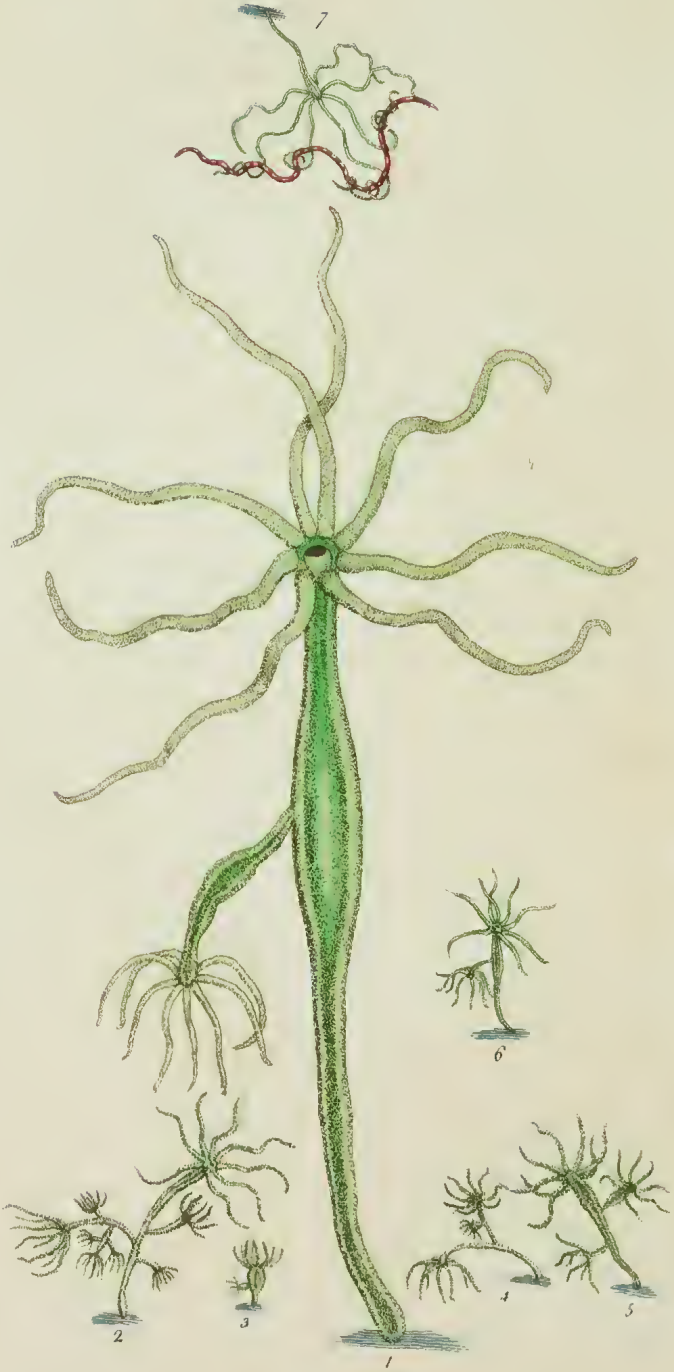
ta

ta hæc cito vulgata ſunt, et ab omnibus Europæ Phyſicis repetita. Hoc modo plures Hydræ repertæ ſunt, cum variis aliis animalibus eandem repullulandi poteſtatem habentibus; et nova velut Epocha in Hiſtoria Naturali exorta eſt.

Fig. 1. Hydra magnitudine aucta.

Fig. 2, 3, &c. Hydræ magnitudine naturali; et aliæ leviter auctæ.

Fig. 7. Hydra vermiculum arripiens.



Pl. 1

London. Published Febry 1st 1790 by F. P.c Nodder & Cº 1. 2 Paston Street.

THE
GREEN POLYPE,
OR
HYDRA.

Generic Character.

Body long and tubular.
Mouth furrounded by arms, or tentacula.

Specific Character.

POLYPE with about 8 or 10 arms, or tentacula.

See with new life the wond'rous worm abound,
Rich from its loſs, and fruitful from its wound!

The various ſpecies of Polype, or Hydra, are juſtly ranked amongſt the moſt wonderful productions of Nature; ſo extraordinary are the particulars of their life and mode of propagation, as well as their powers of reproduction after being cut in pieces, that at their firſt diſcovery the philoſophic world was involved in ſcepticiſm; and the Hiſtory of the animals did not obtain complete credit, till experiments repeated by the moſt diligent and accurate Naturaliſts, and varied in

in every poſſible manner, at length inconteſtibly proved the truth of their ſurpriſing, and ſeemingly impoſſible properties.

As it is the intention of this work to give as ſhort deſcriptions as the nature of the ſubject can admit of, we ſhall, in our account of this animal, only relate in very plain and brief terms the general hiſtory of the creature.

The Polype is an aquatic animal, of which there are ſeveral ſpecies: of theſe one of the moſt common is that repreſented on the annexed plate; *viz.* the Green Polype, or Hydra Viridis of Linnæus. It is a native of clear waters, and may generally be found in great plenty in ſmall ditches and trenches of fields; eſpecially in the months of April and May. It affixes itſelf by the tail to the under part of the leaves, and to the ſtalks of ſuch vegetables as happen to grow immerſed in the ſame water. The animal conſiſts of a long tubular body, the head of which is furniſhed with eight, and ſometimes ten long arms, or tentacula, which ſurround the mouth or opening. It is capable of contracting its body in a very ſudden manner when diſturbed; ſo as to appear only like a roundiſh green ſpot; and when the danger is over, it again extends itſelf as before. It is of an extremely predacious nature, and feeds on the various ſpecies of ſmall worms, and other water-animals which happen to approach: when any animal of this kind paſſes near the Polype, it ſuddenly catches it with its arms, and dragging it to its mouth, ſwallows it gradually in the ſame manner as a ſnake ſwallows a frog. The Polype has no

anus

anus or vent; it therefore again evacuates the remains of the animal on which it has preyed, by its mouth. It is capable of ſwallowing a worm of twice or thrice its own ſize; which at firſt appears incredible; but is eaſily underſtood when we conſider that the Polype's body is extremely extenſile, and is dilated on ſuch occaſions to a ſurpriſing degree.

The uſual manner in which Polypes propagate is by vegetation; one or two, or even more young ones emerging gradually from the ſides of the parent animal; and frequently theſe young ones are again prolific before they drop from the parent; ſo that it is no uncommon thing to ſee two or three generations at once on the ſame animal. But the moſt aſtoniſhing particular is yet untold; *viz.* that if a Polype is cut in pieces, it is not deſtroyed but multiplied by its wounds, and what was ſaid of the fabulous Hydra of the ancients, is here literally true;

"Fertilis et damnis dives ab ipſa ſuis." *

A Polype of the common ſize may be very conveniently cut in three pieces, by taking the opportunity, when the creature is fully extended, of introducing a pair of ſciſſars gently into the glaſs in which it is kept, and dividing it ſuddenly; and when the tail-part is again extended, repeating the ſame operation: in this caſe the tail-part will produce a new head and arms, the head-part a new tail, and the middle part will reproduce both head, and arms, and tail; and all theſe will in a few days become as perfect, except in length, as

* Rich from its loſs, and fruitful from its wound.

as the animal was at firſt. In ſhort, Polypes may be cut in all directions and in every manner that can be conceived, without injuring them; and will amply repay the trouble attending the experiments by the aſtoniſhing views which they will exhibit during their different degrees of growth.

As the green Polype is one of the moſt common animals of the kind in this country, we have ſelected it as the beſt and moſt familiar example of the genus: Its moſt general length is from a quarter to half an inch, when extended, excluſive of the arms; but ſometimes it grows to a much greater extent. The firſt diſcovery of this animal was towards the end of the laſt century by Leewenhoek; but he was not acquainted with its extraordinary properties of reproduction. It ſeems to have been neglected after Leewenhoek's obſervation, 'till the year 1740, when Mr. Trembley of Geneva again diſcovered it; and by innumerable experiments was convinced of its reproductive nature. His experiments were ſoon made public; were repeated by all the Naturaliſts of Europe; ſeveral other ſpecies were diſcovered, as well as many other animals which poſſeſs the ſame power of reproduction, and a new Era commenced in the annals of Natural Hiſtory.

Fig. 1. A Polype magnified.

Fig. 2, 3, &c. Polypes, ſome in their natural ſize, and others ſlightly magnified.

Fig. 7. A Polype ſeizing a worm.

LACERTA MONITOR.

Character Genericus.

Corpus tetrapodum, caudatum, nudum.
Lin. Syſt. Nat. p. 359.

Character Specificus, &c.

LACERTA cauda carinata, corpore mutico maculis ocellatis.
Lin. Syſt. Nat. p. 360.

Seba. Muſ. vol. 1. t. 97. *Fig.* 2.
——— vol. 1. t. 94. *Fig.* 1. 2.
——— vol. 2. t. 30. *Fig.* 2. & tab. 49. *Fig.* 2.
——— vol. 2. t. 86. *Fig.* 2.

Nomen Monitor huic Lacertæ datum eſt, quoniam, (quod valde dubium videtur,) crocodilo viſo, clamorem argutum præ metu tollere dicitur; hoc modo viatores de monſtro iſto appropinquante haud raro admonens.

In magnam molem ſæpe creſcit Monitor, et gracili eſt forma, caudam habens longiſſimam. Color ejus communis eſt niger, albo variatus. Variationes albæ in faſcias tranſverſas macularum circularium centro nigro diſpoſitæ ſunt, et inter has faſcias aliæ plerumque occurrunt anguſtæ, ſeu velut ſtriatæ. Variationes ſuper caudam, non, ut in reliquo corpore, ad normam, ſed

ſed velut temere et fortuito poſitæ videntur. Crura pedeſque albo tranſverſe maculata ſunt. In abdomine color albus dominatur, ſtriis maculiſque nigris plus minus notatus. Interdum coloribus variat hæc ſpecies: color ejus nempe primarius eſt fuſcus, aut ſubferrugineus, potius quam niger.

Elegans hæc Lacerta in Indiæ Orientalis ſimul ac Americæ partibus Auſtralioribus naſcitur.

London. Published Feb.ry 1st 1790 by F. P. Nodder & Co. N.o 13 Paxton Street.

THE MONITORY LIZARD.

GENERIC CHARACTER.

Body four-footed, tailed, naked.

Lin. Syſt. Nat.

SPECIFIC CHARACTER, &c.

BLACK LIZARD, marked with tranſverſe bands of ocellated white ſpots.

This ſpecies of Lizard has obtained the name of Monitor, from a circumſtance which ſeems of very doubtful authority. It is pretended that on ſight of the crocodile, it ſets up a loud and ſhrill cry through fear, and thus frequently warns travellers of the vicinity of that formidable creature. It grows to a conſiderable ſize, and is of a very ſlender make, and the tail is extremely long. The general colour of the animal is black and white; the black forming the ground-colour, and the white the variegations, which are diſpoſed in tranſverſe bands of annulated ſpots with black centres, and between theſe bands are generally ſome narrowiſh ſtripes of white. On the tail the variegations are leſs regular than on the body. The legs and feet are ſpotted tranſverſely with white. On the belly the white prevails, which is marked more or leſs with

with tranſverſe ſtreaks and ſpots of black. Sometimes this animal varies in colour; the ground being rather brown or ferruginous than black.

This elegant Lizard is found both in the Eaſt-Indies, and in the Southern parts of America.

STRIX PULCHELLA.

Character Genericus.

Roſtrum aduncum (abſque cera.)
Nares pennis ſetaceis recumbentibus obtectæ.
Caput grande: auribus oculiſque magnis.
Lingua bifida.

Lin. Syſt. Nat. p. 131.
Ord. *Accipitres.*

Character Specificus, &c.

STRIX capite auriculato, corpore cinereo, punctis maculis ſtriiſque nigris variato, remigibus albo maculatis.

STRIX PULCHELLA.

Pallas.
Latham. Synopſ. vol. 1. p. 130.

Avicula, magnitudine naturali in tabula depicta, eſt omnium noctuarum hactenus cognitarum minima. Inter eas ſpecies ſui generis militat quæ nomine noctuarum auritarum diſtinguuntur; quarum nempe tempora faſciculis plumoſis exſtantibus ornantur. Siberiam habitat, et varias Moſcoviæ regiones. Species eſt maxime elegans et concinna. Color ejus primarius eſt dilutiſſime cinereus, ſeu canus, punctis innu-

meris maculiſque nigris et ſubferrugineis pulcherrime irroratus. Alarum remiges, ſeu pennæ fuſco alboque faſciatæ. Cauda quoque albido leviter faſciata eſt; et tota avis coloribus ſuis avi *Torquillæ* non eſt abſimilis. Pectus et abdomen albicant, maculis longitudinalibus nigris notata.

London. Published March 1st 1800 by J. P. Neale & J. M. Leighton Strand

THE

LEAST HORNED OWL.

Generic Character.

Bill hooked, not furniſhed with a cere.
Noſtrils covered with recumbent briſtly feathers.
Head large: *Ears* and *Eyes* very large.
Tongue bifid.

Specific Character, &c.

HORNED OWL with pale grey plumage, varied with ſpecks and markings of black and browniſh; the long feathers of the wings ſpotted with white.

SIBERIAN OWL.

Latham. Synopſ. vol. 1. p. 130.

The bird here repreſented in its natural ſize, is the leaſt ſpecies of Owl yet known; it is of that diviſion of the genus which contains the ſpecies commonly called Horned Owls, or ſuch as have a tuft of feathers ſtanding up on each ſide of the forehead. It is a native of Siberia, and is found in ſeveral parts of Ruſſia. It is a ſpecies of uncommon elegance of plumage. The

general or ground colour is a very pale grey or aſh-colour; curiouſly ſprinkled all over with innumerable points and ſpots of black, browniſh, &c. The long feathers of the wings are barred with brown and white; the tail is alſo ſlightly faſciated with white, and the whole plumage bears a very conſiderable reſemblance to that of the Wryneck. The breaſt and belly are whitiſh, with longitudinal marks of black.

OPHRYS APIFERA.

Character Genericus.

Nectarium ſubtus ſubcarinatum.

Lin. Syſt. Nat. tom. 2. p. 592.
Gynandria Diandria.

Character Specificus, &c.

OPHRYS bulbis ſubrotundis, ſcapo folioſo, nectarii labio ſubquinquelobo.

Lin. Spec. Plantar. p. 1343.

OPHRYS radicibus ſubrotundis, labello holoſericeo, emarginato et appendiculato.

Haller. Hiſt. vol. 2. 1266. t. 24.

Planta hæc, cui nomen Ophrys Apifera, rei botanicæ ſtudioſis probe cognita eſt: Junio et Julio floret. Super colles, et prope ſylvas, ſolo præcipue cretaceo naſcitur; venuſtatem tamen habet eximiam et peculiarem in umbroſo ſylvarum feceſſa reperta. Sic ſita injuriam omnem quæ a ſole nimium torrido foliis accidere ſolet, evitat. Flores formoſæ hujus plantæ adeo ſunt apibus ſimiles, parvo intervallo conſpecti, ut qui eam intuentur, in eademſententia non poſſint non omnes convenire.

Notum epigramma, parce detortum, Ophri Apiferæ non male convenit.

Dum dubitat vel apem Natura an fingeret herbam,
Conjunxit formas ingenioſa duas.

THE
BEE OPHRYS.

Generic Character.

The *Nectary* of a ſomewhat keel-ſhaped appearance on its lower ſurface.

Lin. Syſt. Nat.

Specific Character, &c.

OPHRYS with roundiſh bulbs, leafy ſtem, lip of the nectary notched into five lobes.

Lin.

OPHRYS with 5-petaled flowers, of which the 3 exterior petals are large, acuminate, and of a very pale purple; the 2 interior ones ſmall, very narrow, and greeniſh; the nectarium large, convex, brown, of a velvety ſurface, and marked with yellow ſpots and ſtreaks.

ORCHIS, ſ. Teſticulus vulpinus 2 ſphegodes.

Gerard emac. p. 212.

ORCHIS ſphegodes, ſeu fucum referens.

Park. 1350.

The plant figured is well known to the admirers of botany by the title of the Bee-Orchis. It flowers in June and July. It is found principally on hilly grounds, and

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and near woods, eſpecially on a chalky ſoil; but it is never ſeen in ſuch complete perfection as when it happens to grow in the ſhade of a wood, as in this ſituation it eſcapes all thoſe injuries which the leaves are ſo apt to ſuffer, when growing in a too ſunny expoſure.

So ſtriking is the general reſemblance which the flowers, when viewed at a little diſtance, bear to an Inſect, as to have uniformly impreſſed all obſervers with the ſame idea; and may almoſt juſtify the application of the epigrammatic deſcription.

Nature in doubt a beauteous Flow'r
Or Inſect to diſcloſe,
At length beneath her forming pow'r
They both in union roſe.

BOA CANINA.

Character Genericus.

Scuta abdominalia.
Scuta ſubcaudalia. (abſque crepitaculo.)

Lin. Syſt. Nat. p. 373.
Claſſ. *Amphibia.* Ord. *Serpentes.*

Character Specificus, &c.

BOA viridis, faſciis dorſualibus tranſverſis albis, ſcutis 203, ſcutulis 77.
Seb. Muſ. vol. 2. tab. 81, 96.

Quamvis plurimæ ſint ſerpentes quæ ſpectatores horrore et formidine potius quam voluptate afficiunt, multæ tamen ſunt ſpecies quæ pulcherrimos colores ſummamque elegantiam jactare poſſunt. Qui exemplum deſiderat adeat anguem *Scytalen* in hoc opere antea depictum. Alterum eſt exemplum ſpecies de qua jam agitur. Genus ad quod hæc ſerpens refertur, ſcutorum continuata ſerie per totam corporis inferioris longitudinem diſtinguitur.

Laminæ omnes ſerpentum in parte inferiore, ſeu ventre, nomine *Scutorum* a Linnæo diſtinguuntur, ne cum ſquamis ſuperioribus confundi poſſint: ſed quoniam ſcuta quæ ſub cauda ſunt, ab aliis differunt, utpote breviora ſeu minus dilatata, ſatius puto hæc nomine *Scutulorum* appellare, quo melius a ſcutis, ſeu laminis largioribus poſſint dignoſci. Quamvis torvo ſit hæc

hæc ſerpens et maligno vultu, nullo tamen veneno imbuitur, et ſimplici tantum vulnere lædit; utpote telis tubulatis et facculo veneni, quibus noxiæ ſerpentes armantur, plane carens. Color ejus eſt ſubcœruleo-viridis, admodum vividus, per dorſum faſciis tranſverſis albidis variatus: ventrem etiam habet albidum, ſed flavo inquinatum. Americæ eſt incola.

Figura hujus ſerpentis in Sebæ Theſauro eſt adeo perfecta, ut potius viſum ſit eam ipſam imitari quam novam condere. In Linnæi opere, Muſeum Adolphi Friderici dicto, alia exſtat figura, ſed minus elegans. In Muſeo Britannico ipſe ſerpens conſpicitur.

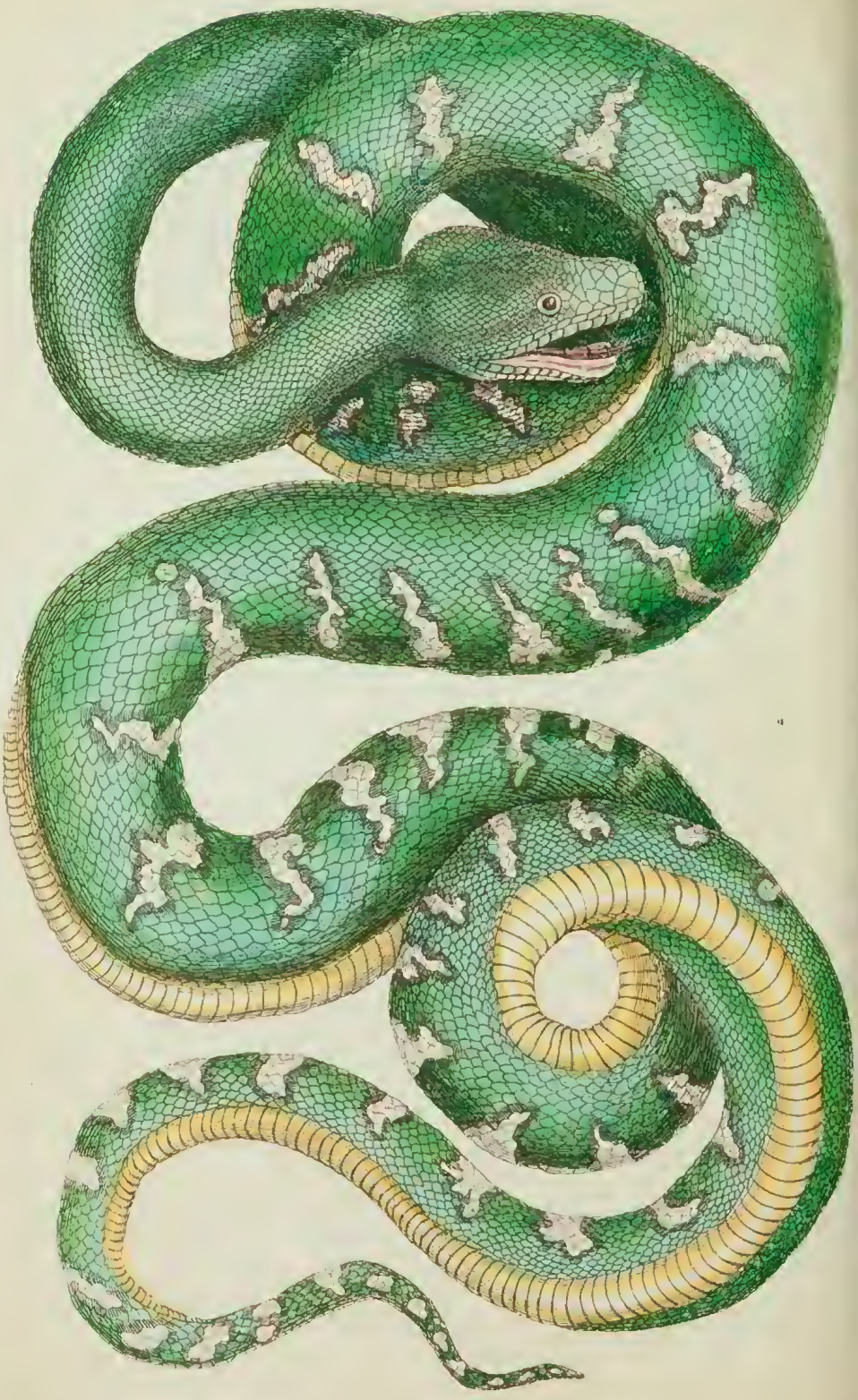
Sed audi Linnæi ipſius deſcriptionem hujus ſerpentis ex muſeo Adolphi Friderici.

"*Caput* cordatum, ante oculos oblongum, depreſ-
"ſum, poſtice gibbum, imbricatum ſquamis parvis:
"anticis, præſertim ad latera, ante oculos, majoribus.
"*Labium* ſuperius antice retuſum, album, emargina-
"tum, lateribus ſcrobibus ſcalaribus profundis excava-
"tum, unde horrida facies. *Dentes* verſus anteriora,
"in utriſque maxillis, tam ſupra quam infra, 2 vel 3
"longi, acuti, fixi, nec retractiles. *Nares* lineares,
"tranſverſæ. *Oculi* orbiculares.

"*Truncus* compreſſus, præſertim verſus abdomen:
"ſquamis lævibus. *Abdomen* albidum: ſcutellis 203.
"*Cauda* $\frac{1}{7}$ totius, ſubtus ſcutellis 77, ſpithamea, atte-
"nuata, obtuſiuſcula.

"Color viridis faſciis tranſverſis, albis, anguſtis,
"tantum dorſalibus, medio interruptis.

"Longitudo quadripedalis. Craſſities fere brachii
"anguſtioris."



London. Published March 1st 1790 by J. P. Vadder & Co. No 13 Panton Street.

THE
CANINE BOA,
OR
DOG-HEADED SNAKE.

Generic Character.

Tranſverſe *Lamellæ*, both on the abdomen, and beneath the tail.

Specific Character.

GREEN BOA, with white tranſverſe dorſal bands; with 203 ſcuta on the abdomen, and 77 ſcutula beneath the tail.

Though the ſerpent tribe undoubtedly abounds with ſpecies which may well be conſidered rather as terrible than pleaſing objects, yet there are not wanting numerous examples of the greateſt elegance and beauty of colour in this claſs of beings. Of this the Anguis *Scytale*, or Painted Snake, figured in a former Number of this Work, may be regarded as a ſtriking inſtance, and the animal here repreſented may be adduced as another. The genus of Serpents to which this ſpecies belongs, is diſtinguiſhed by having a continued ſeries of plates, or tranſverſe ſcales, throughout the whole length of its lower ſurface.

The

The large plates on ſerpents are called, in the Linnæan language, by the name of Scuta, to diſtinguiſh them from the Squamæ, or ſcales on the other parts of the body: but as thoſe ſcuta which are ſituated under the tail, differ from the reſt in being ſmaller or leſs extended, and form a ſeparate aſſortment from the abdominal ones, they ſhould always be called by a name which ſhould inſtantly diſtinguiſh them from the Scuta or larger plates. I have therefore called theſe ſmaller ſcuta by the name of Scutula.

Notwithſtanding an appearance of malignity in this animal, it is not of a venomous nature; that is, it is not capable of inflicting any other than a ſimple wound by its teeth, as it is unprovided with the tubular fangs and reſervoir of poiſon with which the venomous ſerpents are furniſhed.

Its colour is a moſt beautiful vivid Saxon or bluiſh-green, with ſeveral broad tranſverſe bars of white down the back; the belly is of a white colour, but ſlightly tinged with yellow. It is an inhabitant of America.

The figure of this Snake in Seba's Muſeum is ſo well executed both as to poſture and accuracy, that it was thought better to copy it than to attempt a new one.

In the Britiſh Muſeum is a fine ſpecimen of this animal. It is alſo figured in the Muſeum Adolphi Friderici of Linnæus, but the figure in that work is far from having the elegance of Seba's repreſentation.

The deſcription of this ſerpent by Linnæus in the Muſ. Adolph. Frid. is as follows.

"*Head* cordated, oblong before the eyes, depreſſed, "gibbous behind, imbricated with ſmall ſcales; the "anterior

" anterior ones, especially at the sides before the eyes, " larger than the rest. Upper *Lip* retuse before, white, " emarginated, the sides excavated with a series of deep " scalary furrows, which give the face a formidable ap- " pearance. *Teeth* situated towards the anterior part " of the mouth, 2 or 3 in each jaw, both above and " below, long, sharp, fixed, not retractile. *Nostrils* " linear, transverse. *Eyes* orbicular.

" *Trunk* compressed, especially towards the abdomen: " covered with smooth scales. *Abdomen* white; Scuta " 203. *Tail* 1-7th of the whole, attenuated, somewhat " obtuse, covered beneath with 77 Scutula.

" Colour green, with transverse white bands, which " are narrow and situated on the back only, and some- " what broken or interrupted towards the middle.

" Length 4 feet. Thickness nearly that of the small " of the arm. "

STRIX NEBULOSA.

Character Genericus.

Roſtrum aduncum. (abſque cera.)
Nares pennis ſetaceis recumbentibus obtectæ.
Caput grande: auribus oculiſque magnis.
Lingua biſida.

Lin. Syſt. Nat. p. 131.
Ord. *Accipitres.*

Character Specificus, &c.

STRIX fuſco albidoque tranſverſim faſciata, abdomine albo maculis oblongis ferrugineis.

Penn. Zool. Arct. p. 234.
Act Angl. vol. 62. p. 424.
Lath. Synopſ. p. 133.

Hæc avis inter majores ſui generis exſtat, quamvis aliis ſpeciebus magnitudine impar. Specimen a Doctore Forster in Actis Anglicis deſcriptum pondere erat librarum trium, longitudine ſedecim unciarum, latitudine quatuor pedum. Tota avis fuſco albidoque colore tranſverſim faſciata eſt, faſciis verſus caput minoribus et numeroſioribus. In imo ventre et ſuper latera ſunt maculæ variæ longitudinales, magnæ, ferrugineo-fuſcæ. Pallidæ quæ oculos cingunt plumæ,

ſtriis concentricis fuſcis leviter notantur. Super remiges alarum et caudam faſciæ alternatim albæ fuſcæque majores ſunt, et magis conſpicuæ quam in aliis partibus. Colores totius avis ſunt molles et eleganter diſpoſiti. Sinum Hudſoni in America Septentrionali inhabitat hæc avis.

N.o

London, Published April 1st 1790 by T.P. Nodder &c.o N.o 13 Panton Street.

THE

CLOUDED OWL.

Generic Character.

Bill crooked (not furniſhed with a cere.)
Noſtrils covered with recumbent briſtly feathers.
Head large: *Ears* and *Eyes* large.
Tongue bifid.

Lin. Syſt. Nat.—Accipitres.

Specific Character, &c.

OWL tranſverſly faſciated with brown and whitiſh, the belly white with oblong ferruginous ſpots.

BARRED OWL.

Pennant. Arct. Zool. p. 234.
Lath. Synopſ. p. 133.

This is one of the larger ſpecies of Owls, though inferior in ſize to ſome others of the genus. A ſpecimen deſcribed by Dr. Forster in the Philoſophical Tranſactions weighed three pounds, and was in length ſixteen inches, and in breadth, when extended, four feet. The whole bird is tranſverſly barred with brown and whitiſh; the bars being ſmalleſt, and moſt numerous

rous towards the head. On the lower part of the belly, and on the ſides, are ſome large longitudinal marks of ferruginous brown. The feathers ſurrounding the eyes are of a pale colour, lightly marked with concentric ſtriæ of browniſh. On the long feathers of the wings and tail, the alternate bars of brown and white are larger and more conſpicuous than on the other parts. The colours on the whole bird are ſoft, and very elegantly diſpoſed. It is a native of Hudſon's Bay.

ACTINIA ANEMONE.

Character Genericus.

Corpus ſe affigens baſi, oblongum, teres: apice dilatabili intus tentaculato.

Os terminale dentibus incurvis; roſtro cylindrico radiato.

(*Apertura* præter os nulla.)

Lin. Syſt. Nat. p. 1088.

ANIMAL ſe affigens baſi, carnoſum, oblongum, teres, contractile, viviparum.

Os terminale, dilatabile, tentaculis cinctum.

(*Apertura* præter os nulla.)

Elliſ. Hiſt. Zooph. p. 1.

Character Specificus, &c.

ACTINIA ſubcylindrica, breviuſcula, rubra, tentaculis interioribus ramoſis, exterioribus conicis, obtuſis.

AN ACTINIA EQUINA?

Lin. Syſt. Nat.

Si Zoologiæ claſſes inferiores attentius ſcrutemur, multa inveniemus formæ adeo inſolitæ et naturæ velut ambiguæ, ut dubium videatur ſintne inter plantas, an inter animantes memoranda. Plurima hujuſmodi a cele-

a celeberrimo Linnæo ſub nomine *Molluſcorum* digeruntur; ita ſcilicet ordinem conſtituentia claſſis Vermium. Inter varia Molluſcorum genera nullum genus *Actiniæ* aut pulchritudine aut miro artificio præcellit.

Multæ hujus generis ſpecies nomine Anemones marinæ deſcriptæ ſunt, utpote formam floris Anemones, cum expanduntur, præ ſe ferentes.

Species autem hic depicta, peculiari modo hac appellatione digna videtur: illam igitur nomine *Actiniæ Anemones* diſtinguere non dubitavi. Quamvis perquam vulgaris ſit hæc ſpecies in variis Europæ littoribus, et nullis frequentior quam noſtratibus, a Linnæo tamen in Syſtemate Naturæ minus videtur deſcripta. Rupibus arcte adhæret, et mari refluente, interdum nuda ſuper rupes, plerumque tamen paulum ſub aqua relinquitur. Color illi generalis eſt ruberrimus, plus minus vividus in diverſis ſpeciminibus. Magnitudinem repræſentant tabulæ. Dum contrahitur (*Fig.* 1.) cono obtuſiſſimo ſimilis eſt, apice aperto, quem pro arbitrio penitus claudere poteſt: plerumque tamen adeo reſeratus eſt apex, ut ramoſa aliquot tentacula centralia emergant. (*Fig.* 2.) Animal autem expanſum ſpectaculum exhibet pulcherrimum omnino et mirandum. Duplicem enim, et interdum triplicem in circumferentia ordinem tentaculorum protrudit, forma oblonga, apicibus obtuſis, quibus color flavus eſt, rubro elegantcr variatus: hoc modo florem a quo nomen habet, optime exprimens. (*Fig.* 3.) Tentacula centralia nunc non exſeruntur, ſed ampla in medio relicta eſt cavitas, in quam ſi aliquid extraneum introducitur, aut ſi aliqua tentacula vel leviter tanguntur, illico ſe fortiter contrahit

contrahit animal, et in formam coni, (ut in *Fig.* 1.) rurſus ſubducitur. Hanc Actiniæ ſpeciem interdum a rupe ſua detraxi, vidique illam mirabundus paulo poſt, cum langueſcere cepit, omnia pene viſcera protrudentem in formam membranæ inflatæ et late expanſæ, coloris flaveſcentis, radiis ſubrubris et viride pallentibus variati. (*Fig.* 4.) Cum hoc fit, tentacula centralia non exſerta ſunt, ſeries autem duplex vel triplex tentaculorum in circumferentia pulchre expanditur. Viviparæ ſunt Actiniæ, ſed ab experimentis in nonnullis ſpeciebus hujus generis demonſtratur poſſe animal (adhibita cautela) in partes abſcindi, et hoc modo propagari, ſingulis partibus gradatim ad perfectionem repullulantibus.

London. Published April 1st 1790. by J. F. Nodder &c. N.13 Paston Street

THE
ANEMONE ACTINIA.
OR
SEA ANEMONE.

GENERIC CHARACTER.

Body oblong, nearly cylindric, fixing itſelf by the baſe, the top expanſile and tentaculated within.

Mouth terminal, furniſhed with crooked *teeth*.

No other *Opening* except that of the mouth.

SPECIFIC CHARACTER.

ACTINIA, of a nearly cylindric ſhape, ſhortiſh, with the interior tentacula ramified, the exterior ones conic and obtuſe, Colour red.

When we take a view of the lower orders of Zoology, we find a large and ſingular ſet of beings, which are ſo widely diſtinct from the other tribes of the animal world, that they ſeem almoſt as nearly allied to vegetables as to animals. Many of theſe curious productions of Nature are arranged by Linnæus under the title of Molluſca; which title is one of the ſubdiviſions of the Linnæan tribe of Vermes. Of the various

gener?

genera belonging to the Mollufca, that of Actinia is perhaps the moſt elegant and curious. Many ſpecies of this genus have been called by the name of Sea-Anemonies, from a general reſemblance which they bear, during their expanded ſtate, to that flower. The ſpecies here repreſented, ſeems in a peculiar manner worthy of this name. I have therefore given it the title of the Anemone Actinia.

Though extremely common on ſeveral of the Europæan coaſts, and on our own in particular, it does not ſeem diſtinctly mentioned by Linnæus in the Syſtema Naturæ. It adheres firmly to the rocks, ſo as to be frequently left above water at the ebbing of the ſea; but it is generally found adhering at ſome little depth below the ſurface of the water. Its general colour is a deep red, more or leſs vivid in different ſpecimens, and of the ſize repreſented in the annexed plates.

When in a ſtate of contraction, (as at *Fig.* 1.) it has the appearance of a very obtuſe cone, with an orifice at the top, which it can at pleaſure cloſe entirely; but which is generally ſo far open, as juſt to exhibit a few of the interior branchy tentacula or central parts. (*Fig.* 2.) but when expanded, it preſents a moſt curious and beautiful appearance, (*Fig.* 3.) it then diſplays a triple row of circular tentacula of an oblong form, with obtuſe points, of a yellow colour, and varied with red in ſuch a manner as to bear a very conſiderable reſemblance to the flower from which it is named. In this ſtate the central tentacula are not protruded, but a large cavity appears in the middle, into which, if any extraneous ſubſtance is introduced, or even if any of the

the tentacula are but ſlightly touched, the animal inſtantly contracts itſelf into a conoid ſhape again, (as at *Fig.* 1.)

I have ſometimes taken this ſpecies of Actinia from its native rock, and have obſerved that after ſome time, when it grew languid, it protruded in a moſt extraordinary manner almoſt the whole of its interior parts or viſcera, in the form of an inflated membrane of a pale yellow colour, and ſtriped very elegantly with rays of red and pale ſea-green. (*Fig.* 4.) In this ſtate it does not protrude any of the central or branchy tentacula, but the rows of lateral ones are protruded all round the circumference. The Actiniæ are viviparous animals, and experiments have been made on ſome of the ſpecies of this genus, which prove, that they are capable of being cut (with proper care) into ſeveral parts, each of which by degrees becomes complete.

PAPILIO POLYMNESTOR.

Character Genericus.

Antennæ apicem verſus craſſiores, ſæpius clavato-capitatæ.

Alæ (ſedentis) erectæ ſurſumque conniventes. (*Volatu* diurno.)

Lin. Syſt. Nat. p. 744.

Character Specificus.

PAPILIO alis dentatis ſubconcoloribus nigris, poſticis apice cæruleſcentibus nigro maculatis.

Fabr. Spec. Inſect. tom. 2. p. 9. *Eq. Troj.*

Elegans hoc inſectum, Aſiam incolens, eſt inter ſpecies a Linnæo non deſcriptas. Alæ ejus ſuperiores ſunt aterrimæ, nubeculis tamen paucis albeſcentibus in longitudinem juxta apices ductis, et prope baſin nota exſtat ſubtrigona producta coccinea. Alarum inferiorum baſis eſt aterrima et holoſerica, pars autem reliqua colorem habet e ſubcæruleo albicantem, maculis nigris niveiſque ornatum.

THE

POLYMNESTOR BUTTERFLY.

Generic Character.

Antennæ, (or *Horns*) thickening towards the upper part, and generally terminating in a knob, or club-ſhaped tip.

Wings (when ſitting) erect, and meeting upwards. (*Flight* diurnal.)

Lin. Syſt. Nat. p. 744.

Specific Character.

BUTTERFLY with indented black wings, colour of both ſurfaces nearly the ſame, the lower wings blueiſh towards the tips, and ſpotted with black.

This beautiful inſect is one of thoſe ſpecies which are not in the works of Linnæus. It is an inhabitant of Aſia. The upper wings are of a deep black, with a few longitudinal whitiſh clouds towards the tips, and a lengthened mark of deep crimſon of a ſomewhat triangular ſhape, near the baſe of each. The lower wings are of a deep velvet-black at the baſe, and from thence of a moſt elegant whitiſh or extremely pale blue, ornamented with ſpots of black and ſnow-white.

London, published 1st April 1856 by W.C. Hewitson, 8 Oxford Street.

LEMUR TARDIGRADUS.

Character Genericus.

Dentes primores ſuperiores 4: intermediis remotis. Inferiores 6: longiores, porrecti, compreſſi, paralleli, approximati.

Laniarii ſolitarii, approximati.

Molares plures, ſublobati; antici longiores, acutiores.

Lin. Syſt. Nat. p. 44.

Character Specificus, &c.

LEMUR ecaudatus, ſubferrugineo-cinereus, linea dorſuali fuſca.

LEMUR ECAUDATUS.

Lin. Syſt. Nat. p. 44.

Singulare hoc animal interdum pro Bradypi ſpecie errantes habuerunt auctores, et nomine Tardigradi Ceylonici deſcripſerunt. Bradypo tamen nequaquam affine eſt, niſi quod, (ut ipſum nomen vult,) tarde admodum gradiatur; in quo ſane ab omnibus aliis ſui ipſius generis ſpeciebus inſignitur differt: ſunt enim illæ ingenii maxime vividi, et motus omnino celerrimi. Notabile etiam eſt quod vel ullo caudæ veſtigio penitus careat. Indiam Orientalem, et præcipue inſulam Ceyloniam inhabitat Lemur Tardigradus. Magnitudo

nitudo ejus eſt fere felis junioris domeſticæ. Coloris eſt pallide fuſci: oculi autem circulis obſcuris, ſeu fuſco-nigricantibus cinguntur, qui ſupra caput coeuntes, lineam eodem colore continuatam per dorſi longitudinem ducunt.

Pellis illi eſt delicatula et molliſſima. Facies eſt quaſi antice truncata, naſo ſubacuminato: oculi magni, valde convexi, perfectas velut hemiſphærias repræſentant, iridibus coloris fere ſuccinei. Digitus interior pedum poſteriorum unguem acutum gerit; cæteri digiti ungues rotundatos et complanatos habent. Sylvas incolit, et fructibus veſcitur; ſed et animalia ſertur devorare; aviculas ſcilicet; quod (ut mihi videtur) ob inſignem tarditatem vix veriſimile eſt. Alia eſt hujus generis ſpecies, vere diverſa, huic noſtræ tamen in multis ſimilis, cuique etiam cauda deficit; ſed multo minor, multo gracilior, et velocior; quam cum Lemure Tardigrado confundunt nonnulli auctores, et communiter nomine *Loris* cognoſcunt.

THE

SLOW-PACED LEMUR.

Generic Character.

Six *Cutting Teeth*, and two *Canine Teeth* in each jaw.

Viſage (generally) ſharp-pointed.

Feet formed like hands, in the manner of apes.

Specific Character, &c.

TAIL-LESS LEMUR, of a ſubferruginous aſh-colour, with a brown dorſal line.

TAIL-LESS MACAUCO.

Pennant. Hiſt. Quadr. p. 212.

This curious animal is ſometimes improperly regarded as a ſpecies of Sloth, and has been called the Ceylon Sloth; but it is not in the leaſt allied to that genus, and has only been ſo named from the ſlowneſs of its motions; in which it differs in the moſt ſtriking manner from all other ſpecies of its own genus, which are animals of the moſt lively diſpoſition, and the moſt vivid celerity of motion. Another peculiarity belonging to this creature, is the total defect of a tail, of which not ſo much as a veſtige appears. It inhabits the Eaſt-Indies, and particularly the iſland of Ceylon. Its ſize

is nearly that of a young cat. Its colour a uniform paliſh brown, but the eyes are ſurrounded with circles of deep brown or blackiſh, which unite on the top of the forehead, and from thence a continued line of brown runs down the back. The fur on the whole animal is remarkably fine and ſoft. The face very flat, but the noſe ſomewhat ſharpened. The eyes are large and extremely convex, ſo as to appear like perfect hemiſpheres. The irides are amber-coloured. The inner toe of each hind-foot is furniſhed with a ſharp, crooked claw, while the reſt of the toes have flat, rounded nails. It inhabits woods, and feeds on fruit; but is likewiſe ſaid to eat animal food, and to kill ſmall birds, but this, on account of its extreme ſlowneſs, does not ſeem very probable.

There is another ſpecies of this genus, which agrees with this in many particulars, and is deſtitute of a tail, and has ſometimes been confounded with it; but in reality it is a very different ſpecies; being much ſmaller, and having both limbs and body much thinner in proportion: it is called by ſeveral authors by the name of the *Loris*.

HELIX HORTENSIS.

Character Genericus.

Animal Limax.
Teſta univalvis, ſpiralis, ſubdiaphana, fragilis.
Apertura coarctata, intus lunata, ſ. ſubrotunda: ſegmento circulo dempto.

Lin. Syſt. Nat. p. 1241.

Character Specificus, &c.

HELIX teſta imperforata pallida, faſciis latis interruptis fuſcis.

COCHLEA vulgaris major pulla maculata et faſciata hortenſis.

Liſt. Angl. tab. 2. fig. 2.

AN HELIX LUCORUM?

Lin.

Militat omnis amans, et habet ſua caſtra Cupido:
Attice, crede mihi; militat omnis amans.

Ov.

Helix vulgaris, ſeu ut communiter vocatur, Cochlea, in numero eſt animalium quæ ob vilitatem, formamque ſordidam et abjectam, a pleriſque contemni et negligi ſolent; in quibus tamen plura fortaſſe diſcernere

cernere poteſt phyſicus quæ delectationem admirationemque excitent, quam vel in majoribus animalibus. Cochlearum enim anatome adeo miraculis plena eſt, ut de variis illarum partibus integrum volumen poſſet componi. Cum vero longis ambagibus ſpeciatim has minutias deſcribere lectoribus plurimis moleſtum ſit, breviter tantum illa percurremus memoratu digniſſima. Oculi Cochlearum in ſummitatibus duorum longiorum tentaculorum, ſeu ut vulgo vocantur, cornuum ſiti ſunt: quod licet a quibuſdam phyſicis dubitatum ſit, ab experimentis tamen et accuratiſſimis Swammerdamii inveſtigationibus clare confirmatur: probatur quoque eos eoſdem fere humores, tunicas, et vaſa, quibus animalium majorum oculi inſtruuntur, continere. Non defuere qui Cochlearum cornua pro veris teleſcopiis naturalibus habuerunt, aſſerueruntque poſſe illas ea vel extendere vel contrahere pro diſtantia objecti ad quod oculos direxerint. Hæc autem idea ſtructuram magis multimodam arguit, quam revera his organis tribuit Natura, et fortaſſe inter plurimas ſit hæc hypotheſis, quas ingenio ſuo indulgere ſolent nonnulli Naturæ ſpeculatores.

Dentes Cochleæ ſunt validi et acuti; omneſque corporis partes tam interiores quam exteriores ad animalis iſtius mores habituſque egregie accommodantur.

De miro generandi modo dicturus, lectores meos enixe orem neceſſe eſt ut nec me fabulas philoſophicas fingere exiſtiment, nec fidem ſuam deficere et immimui ſinant.

Si quidem vera nobis referunt oculati Naturæ inter animalia inferiora inveſtigatores, Cochlearum amores

inuſitato

inuſitato et ſibi peculiari quodam more promoventur; ſemperque ipſum complexum præcedit mira formula, quæ pugnæ ſtatariæ faciem omnino exhibet.

Cochleæ laſcivientes mutua vota telorum parvulorum ictibus, quæ peracuta ſunt et quaſi cornea, ſibi invicem communicant; illiſque refertam pharetram exiguam, in dextro latere cervicis ſitam, quamdiu permanſerit illis conjunctionis deſiderium, intus geſtant. Emiſſo primo telo, illico reſpondet Cochlea vulnerata, et ſimile in amantem jaculatur; ab illa telum alterum emittitur, rurſuſque ipſa invicem percutitur; Cupidiniſque ſagittæ, quas per omne ævum cecinit fervidum poetarum et amantium ingenium, in ipſa tandem Natura revera inveniuntur. Peracto hoc lepido prælio, coeunt Cochleæ, et deinde locum idoneum ubi ova ſua deponant ſollicite quæritant; humidum nempe et opacum receſſum, vel ſub terræ gleba, vel cavo aliquo tegmine. Rotunda ſunt hæc ova, magnitudine fere piſorum parvulorum, coloris albi ſubpellucentis, et ſubſtantiæ mollis. Ex his excluduntur Cochleæ plene formatæ, teſtas ſuas in dorſo ferentes, nec ullam aliam mutationem præter naturale molis incrementum ſubeunt. Hortis et pomariis damnum non leve inferre ſolent Cochleæ, et notatu dignum eſt, illas, ſi defecerit cibus ſucculentus, fructus nempe aut folia, corpora etiam dura et ſicca rodere: memini enim egomet Helicem hortenſem, (qualis eſt illa quæ hic depingitur,) ſub vitro cujus diameter quatuor uncias ſuperabat incluſam, ſubſtratam chartam communem cæruleam una nocte uſque ad ipſius vitri marginem devoraſſe; circulo relicto velut ab ipſo circino deſignato.

Ab

Ab experimentis Spallanzanii aliorumque probatur, Cochleas, abſciſſa aliqua parte, repullulandi facultatem habere: ipſe enim Spallanzanius Cochleæ caput abſcidit, quod, elapſo certo tempore perfecte regerminabat. Hujus experimenti veritas, licet a nonnullis denegetur, ab aliorum tamen doctiſſimorum phyſicorum teſtimonio ſatis comprobatur.

Quanquam variis intervallis ſagittas ſuas jaculentur Cochleæ, fatendum tamen eſt tabulam repræſentare illas plus æquo a ſe invicem remotas. Plerumque propius accedunt; immo interdum fit ut telum ipſum, gladii inſtar, in corpore oppoſito infixum ſtet, dum Cochlea quæ jaculum emiſerit, recedit paululum, ſagittam quaſi commilitonis ſui expectans.

London, Published May 1st 1790 by F.P. Nodder & Co. N.o 13 Paulton Street.

THE
GARDEN SNAIL.

Generic Character.

The *Animal* a Slug.
Shell ſpiral, ſub-pellucid.
Aperture ſemi-lunar.

Specific Character, &c.

SNAIL with a ſhell of a pale colour, with broad interrupted bands of brown.

The COMMON GARDEN SNAIL.

See to the fight the gentle warriors move,
And dart with harmleſs force the ſhafts of love!

The Snail is amongſt the number of thoſe animals which we are apt to overlook on account of their ſeemingly contemptible appearance, but which will perhaps open to our attentive ſurvey a greater variety of curious particularities than moſt other creatures can exhibit. The anatomy of the ſnail is full of wonders, and a volume might be written on its hiſtory; but, without deſcending to a tedious narrative of all its parts, I ſhall only mention a few of the moſt remarkable ones. The eyes of Snails are ſituated on the tips of the two longeſt horns, and though their exiſtence has

has been queſtioned by ſome Naturaliſts, yet the accurate reſearch of SWAMMERDAM has ſufficiently proved their real nature, and that they are furniſhed with nearly the ſame humours, coats, and veſſels as in moſt of the larger animals. Some authors have ſuppoſed the horns to be a kind of natural teleſcopes, and that the animal ſhortened or lengthened them according to the diſtance of the objects to which it directed them; but this idea ſeems to imply a more complicated ſtructure than can be found in this organ, and, I believe, muſt be given up as one of thoſe ingenious hypotheſes which are too frequently entertained by ſpeculative enquirers.

The teeth of the Snail are ſharp and ſtrong, and all the internal as well as external parts of the creature are admirably calculated by Nature for the mode of life to which it is deſtined.

But the moſt wonderful part of the hiſtory of the Snail, is its manner of breeding; and I muſt requeſt my readers to ſummon all their philoſophical faith to receive the ſurpriſing particulars.

If the obſervations of the moſt profound enquirers into the operations of Nature amongſt the lower orders of animals may be depended upon, the amours of Snails are conducted in a manner very different from thoſe of moſt other creatures, and are always preceded by a very extraordinary ceremonial, which has all the appearance of a regular combat.

When theſe animals are diſpoſed to love, they ſignify their mutual wiſhes by launching ſeveral little darts at each other. Theſe darts are of a very ſharp form, and of a horny ſubſtance, and the animals are provided with

with a little quiver or reſervoir of them during the breeding ſeaſon: this internal quiver or repoſitory of the darts is ſituated within the neck, and opens externally on the right ſide. Upon the diſcharge of the firſt dart, the wounded Snail immediately retaliates upon the aggreſſor, and diſcharges a ſimilar one; the other again renews the battle, and is again in its turn wounded; and thus the darts of Cupid, ſo long and loudly celebrated by poets and lovers, and which are metaphorical with all the reſt of the creation, are here completely realized. When the animals have continued for ſome time the combat juſt deſcribed, a reconciliation takes place, and they unite; after which they are ſolicitous to depoſit their eggs in a place of ſafety. For this purpoſe they chooſe a moiſt, cool ſituation, generally under ſome little clod, or in ſome ſmall ſheltered cavity, in which they place them: they are perfectly round; about the ſize of very ſmall peaſe, of a ſemi-tranſparent white colour, and of a ſoft ſubſtance: from theſe the young are hatched completely formed, and with their ſhells on their backs, and undergo no farther change than a gradual increaſe of ſize.

The depredations which theſe animals commit in gardens and orchards is very conſiderable, and it is remarkable that in defect of moiſt ſucculent food, as fruit and tender leaves, they will even attack ſubſtances of a hard and dry nature. I have known the common garden Snail here figured, when confined for one night under a glaſs of more than four inches in diameter, which was placed on a ſheet of common blue paper, entirely devour the whole paper contained in the inclu-

ded

ded ſpace, to the very edge of the glaſs, ſo that a circular piece ſeemed almoſt as accurately taken out, as if marked by a pair of compaſſes.

From the experiments of SPALLANZANI and others, it appears that Snails are poſſeſſed of a very conſiderable degree of reproductive power. SPALLANZANI in particular, has found that the whole head of a Snail may be cut off, and yet in a certain ſpace of time will be reproduced. This has been denied by ſome, but its truth is eſtabliſhed by experiments conducted by the moſt careful and accurate obſervers.

It is neceſſary to add, that the Snails in the annexed plate, are repreſented at ſomewhat too great a diſtance from each other; this is a circumſtance which admits of great variation, but in general the animals make a nearer approach before they dart their ſpicula; and in ſome particular inſtances they have been known to approach ſo near during this action, that the dart has been infixed in the manner of a ſword, in which caſe the animal that diſcharged it, withdraws again to ſome little diſtance, and ſeems to wait for a ſimilar attack.

SPARUS? FORMOSUS.

Character Genericus.

Caput: *Dentes inciſores* vel *Laniarii* robuſti; *Molares* obtuſiuſculi, conferti. *Labia* duplicata.

Memb. branch. radiis 5. *Opercula* ſquamoſa.

Corpus compreſſum. *Linea* lateralis poſtice curvata. *Pinnæ* pectorales rotundatæ.

Lin. Syſt. Nat. p. 467.

Character Specificus.

SPARUS RUBER, corporis maculis longitudinalibus variis, apiceque caudæ, cæruleis.

Inter illos eſt pulcherrimus hic piſcis quos in Syſtemate Naturæ non deſcripſit Linnæus. Secundum normam Linnæanam ad genus Spari referendus eſt. Fatendum ſane eſt Spari et Labri characteres non ſatis accurate diſtingui, ſpecieſque eſſe aliquas quæ æquali pene jure ad alterutrum genus pertinere videantur. Teſtis ſit ſpecies de qua jam agimus, quamque Dominus Ascanius in Opere ſuo *Figures enluminees d'Hiſtoire Naturelle du Nord* dicto, ſpeciem *Labri eſſe voluit. Huic noſtro maxime affinis eſſe videtur piſcis, a Pennantio *Striped Wraſſe* nominatus. Spari et Labri ſpecies variis

* Et fortaſſe revera potius Labrus quam Sparus.

variis plerumque et vividis coloribus ſuperbiunt; ut plurimum quoque, piſces ſunt exteri et adventitii; at ſupradictus ille quem deſcripſit Pennantius, interdum circa littora Britannica conſpicitur. Unde delatum ſit individuum hoc ſpecimen in tabula depictum, et adhuc in Muſeo Leveriano conſervatum, nobis non ſatis liquet. Veriſimile tamen eſt piſcem eſſe Britannicum.

Figura noſtra magnitudine naturali fere dimidio minorem illum repræſentat. Notatu dignum eſt nullam aut Labri aut Spari ſpeciem in grandi illo Opere Ichthyologico Domini Bloch fuiſſe depictam: quod ſane magis mirandum, cum apud multos auctores horum piſcium figuræ reperiantur quas ille commode ſatis, unde et alias plurimas mutuatus eſt, in Ichthyologiam ſuam tranſtuliſſet.

London. Published May 1st 1790 by T. P.r Nodder & Co.r No.s Panton Street.

THE
BEAUTIFUL SPARUS.

Generic Character.

Teeth (generally) ſtrong, and ſomewhat obtuſe.
Lips double.
Membrane of the *Gills* furniſhed (generally) with 5 rays.
Pectoral Fins of a rounded form.

Specific Character.

RED SPARUS, with the various longitudinal marks on the body and the tip of the tail blue.

The beautiful fiſh here repreſented, is amongſt the number of thoſe which are not to be found in the Syſtema Naturæ of Linnæus. The genus to which it belongs ſhould, according to Linnæus's own rules, be that of Sparus; but it muſt be confeſſed that the characters of the two Linnæan genera of Sparus and Labrus are not quite ſufficiently diſtinguiſhed, and ſeveral ſpecies may be obſerved which might with almoſt equal propriety be referred to either genus. As a proof of this, I cannot but obſerve, that in the Work of Ascanius, entitled *Figures enluminees d'Hiſtoire Naturelle du Nord*,

du Nord, this fiſh is given as a ſpecies of Labrus.*

It ſeems very nearly allied to the ſpecies which Mr. Pennant in his Britiſh Zoology has called the *Striped Wraſſe*. The genera of Sparus and Labrus are both remarkable for the vivid colours which frequently adorn the ſpecies belonging to them. Moſt of them are natives of the extra-Britannic ſeas; but the ſtriped Wraſſe of Mr. Pennant, to which this fiſh is ſo nearly allied, has been ſometimes caught on our own coaſts. Where the individual ſpecimen was taken, from which this figure was copied, and which is now in the Leverian Muſeum, I have not been able to learn; but there is reaſon for ſuppoſing it to be a Britiſh fiſh.

It is repreſented about half the ſize of the ſpecimen itſelf.

It is ſingular that no ſpecies either of Sparus or Labrus has yet been figured in the ſuperb Ichthyology of Dr. Bloch; eſpecially as there are not wanting numerous figures of theſe fiſh in the works of ſeveral authors, from whom he might have copied them with the ſame eaſe that he has done thoſe of a great many other fiſhes introduced in the courſe of his Work.

* And perhaps it is really rather a Labrus than a Sparus.

ANAS OCCIDUA.

Character Genericus.

Roſtrum lamelloſo-dentatum, convexum, obtuſum.
Lingua ciliata, obtuſa.

Lin. Syſt. Nat. p. 194.
Ord. *Anſeres.*

Character Specificus, &c.

ANAS albo-variata, faſcia frontis occipitiſque virente, pennis ſcapularibus falcato-dependentibus, roſtro-pedibuſque nigris.

ANAS STELLERI.

Pall. Spic. 6. p. 35. t. 5.

Anatis perpulchra hæc ſpecies nomen habet a patria; Americæ quippe littora occidua præcipue inhabitat. In Kamtſchatka etiam invenitur, ubi in rupibus inacceſſis pullos ſuos educat. Gregatim convolant hæ Anates, nec unquam, ut perhibent, rivos intrant, ſed in littoribus maritimis ſemper degunt.

A ſpecimine eximio hujus avis in Muſeo Leveriano, conſervato, figuram hanc noſtram depingi curavimus; ab eodem etiam ſpecimine figuram ſuam in Zoologia Arctica expreſſit Pennantius. Magnitudine Anatem Penelopen æquat.

THE
WESTERN DUCK.

Generic Character.

Bill broad and flattened; the edges marked with ſharp lamellæ.

Tongue broad and ciliated at the edges.

Specific Character, &c.

VARIEGATED DUCK, with a frontal and occipital band of green; the ſcapular feathers falcated downwards; the bill and legs black.

WESTERN DUCK.

Lath. Synopſ. 3. p. 532.
Pennant. Arct. Zool. p. 564.

The beautiful ſpecies of Duck here repreſented, is named the Weſtern Duck from its having been principally found on the weſtern coaſts of America; but it is likewiſe an inhabitant of Kamtſchatka, where it breeds amongſt inacceſſible rocks. It is ſaid to fly in flocks, and never to enter the mouths of rivers, but to confine itſelf to the ſea-coaſts. The elegant ſpecimen in the Leverian Muſeum was the individual from which this figure was taken: Mr. Pennant's figure of this bird in the Arctic Zoology was alſo drawn from the ſame ſpecimen. The ſize of this ſpecies is nearly that of a Wigeon.

MACROPUS GIGANTEUS.

Character Genericus.

Dentes primores ſuperiores 6, emarginati.
Inferiores 2, validiſſimi, acuminati, antrorſum porrecti.
Molares utrinque 4? remoti.
Pedes antici breviſſimi; poſtici longiſſimi.
Folliculus abdominalis. (Fœminæ)

G. S.

Character Specificus, &c.

MACROPUS cauda ſenſim attenuata.

G. S.

YERBOA GIGANTEA.

Zimmerman. 526.

KANGUROO OPOSSUM.

Pennant. Hiſt. Quadr. p. 306.

Inter quadrupedes anomalum omnino et ſingulare eſt animal *Kanguroo* dictum. Genus a Pennantio diſponitur nomine *Didelphis* ſeu *Opoſſum*, cui ſane maxime eſt affine. Affine tamen eſt et Murini generis certis ſpeciebus, quas deſcribit Linnæus, quibus pedes poſteriores inſolitæ ſunt longitudinis, pedeſque anteriores inſolitæ brevitatis. Inter illas eſt ſpecies valde ſingularis, communiter *Jerboa* nominata, quæ a Lin-

næo Mus Jaculus dicta eſt, cui geſtus ſituſque corporis ſunt avi ſimiles, pedibus utpote poſterioribus tantum inſiſtenti, anterioribus non niſi inter edendum, et terram pro cubili ſcalpendum utenti. Differt in hoc *Kanguroo* a *Jerboa*, quod dum pedibus tantum poſterioribus quieſcit, metatarſum? adeo productum habet ut primo intuitu tota velut tibia videatur terræ inniti: at *Jerboa* pedibus ſolis nititur. Kanguroo fœmina ſaculum habet in abdomine, ut et vulgaris ſeu magna Didelphis. Utrique maxillæ inſunt quatuor? dentes molares, ab aliis dentibus remoti. Maxillæ ſuperiori inſunt ſex dentes inciſores, validi, lati, paulum bifidi, ſeu medio leviter exciſo. (emarginati.) In fronte maxillæ inferioris ſunt dentes duo prominentes, maximi, validiſſimi, acutiſſimi. Pedes anteriores in quinque digitos longos diviſi ſunt, unguibus acutis munitos. Pedum autem poſteriorum forma eſt valde ſingularis; Primo intuitu tridactyli apparent, digitis nempe tribus inſtructi. Digitus medius validiſſimus, maximus, ungue itidem maximo et validiſſimo armatus. Digiti laterales utrinque minores ſunt, unguibus proportionatis; quorum interior, ſi prope conſpicitur, duplex videtur, ſive ex unguibus duobus valde vicinis conſtans. Pedes itaque poſteriores revera ſunt tetradactyli, ſeu digitis quatuor inſtructi. Hæc obſervatio (quæ, ut videtur primos ſpectatores effugit,) certe eſt accurata; poſſit etiam eſſe utilis; affinitatem enim maximam demonſtrat inter hanc ſpeciem et aliam a pictore *Le Brun* nomine *Philandri* deſcriptam, in qua unguis interior duplex plane conſpicitur. In alia quoque *Kanguroo* ſpecie Novam Hollandiam cum *Kanguroo* magno incolente

lente, eadem obſervatur pedis ſtructura. In ſuo genere *Kanguroo* eſt ſpecies facile maxima; utpote ovi adultæ magnitudine par. Caput collumque, cum parte corporis ſuperiore gracilia ſunt; corporis autem pars poſterior permagna eſt et carnoſa. Inſolitæ eſt agilitatis, ſaltibus altis adeo et longis progrediens, ut canes *Graii* dicti facile ab illo in curſu ſuperentur.

Novam Hollandiam incolit *Kanguroo*, ibi frequenter conſpectus. Victum præbet non inſalubrem. Vegetabilibus ſolis veſcitur.

THE GREAT KANGUROO.

GENERIC CHARACTER.

Six *Cutting Teeth* in the upper jaw, ſlightly emarginated.

Two very ſtrong, ſharpened *Teeth* in the lower jaw, pointing forwards.

Grinders on each ſide 4? diſtant from the other teeth.

An *Abdominal Pouch.* (in the female.)

G. S,

SPECIFIC CHARACTER, &c.

KANGUROO, with the tail gradually attenuated.

G. S.

KANGUROO OPUSSUM.

Pennant. Hiſt. Quadr. p. 306.

KANGUROO.

Cook's Voyage. 3. p. 577.

The Kanguroo is a very anomalous and extraordinary quadruped. The genus to which it bears the greateſt affinity, is that of Didelphis or Opoſſum, in which genus

London. Published June 1st 1790 by J. & E. Nodder & Co. N.a Pantos. Lane.

genus it is placed by Mr. PENNANT; but it has alſo ſome affinity with thoſe ſpecies of the Linnæan genus Mus, which are furniſhed with hind legs of a very remarkable length, and fore-legs as remarkably ſhort. One of the moſt ſingular of theſe is the creature called the Jerboa, which is the Mus Jaculus of Linnæus; an animal which has the general actions and attitudes of a bird; ſtanding on its hind legs, and making uſe of the fore-legs only in feeding and in ſcratching or burrowing in the ground.

The Kanguroo, like the Jerboa, reſts only on its hind legs, but the whole metatarſus? having the appearance of the tibia, reſts on the ground, whereas the Jerboa more frequently ſeems to ſtand on the feet alone. The female Kanguroo is furniſhed with a ventral pouch, in the ſame manner as the large or common Opoſſum. In each jaw there are 4? grinding teeth, or dentes molares; theſe are ſituated backwards, at a diſtance from the front-teeth. Of theſe, *viz.* the front or cutting teeth, (*inciſores*,) there are 6 in the upper jaw, of a broad ſhape, and appear as if approaching to a bifid figure, or with a part cut out from the middle edge *(emarginated)*. In the front of the lower jaw are two extremely large, ſharp, and ſtrong teeth, which incline forward. The fore feet are divided into five longiſh toes, with ſharp claws; but the ſtructure of the hind feet is extremely remarkable. At firſt view, the foot ſeems to be tridactylous, or to conſiſt of three toes; the middle toe is moſt uncommonly ſtrong and large, and furniſhed with a claw of proportional magnitude; the ſide toes are much ſmaller, and the claw

claw of the interior one, if clofely examined, will be found to be double, or to conſiſt of two claws very clofe to each other; ſo that in reality, the hind feet are tetradactylous, or have four claws. This particular, (which ſeems to have eſcaped the firſt obſervers) is both curious and important, as it ſeems to ſhew how very nearly this animal is allied to another anomalous ſpecies of quadruped, which has long ago been deſcribed by Le Brun, the painter, under the name of the Philander, in which the ſame particularity (*viz.* the double inner claw) takes place; as likewiſe in a ſmall ſpecies of Kanguroo, which, like the large ſpecies here figured, inhabits New Holland.

The tail of the Kanguroo is very long, and gradually tapers to the end.

The Kanguroo is by far the largeſt animal of its genus; being as large as full-grown ſheep. Its head and neck, and whole upper parts are very ſlim and delicate; while the lower part of the body is very large and muſcular. It is a creature of ſurpriſing agility, and ſprings forwards, by leaping to ſo uncommon a height, and to ſo great a diſtance, as to outſtrip the fleeteſt purſuit; the ſwifteſt greyhound being eaſily and ſoon diſtanced by this wonderful quadruped.

It is a native of New Holland, where it is found in plenty, and is eſteemed a uſeful article of food.

SCARABÆUS HERCULES.

Character Genericus.

Antennæ clavatæ capitulo fiſſili.
Tibiæ anticæ ſæpius dentatæ.

Lin. Syſt. Nat. p. 541.

Character Specificus, &c.

SCARABÆUS ſcutellatus, thoracis cornu incurvo maximo: ſubtus barbato unidentato, capitis recurvato: ſupra multidentato.

Lin. Syſt. Nat. p. 541.

Röſel. Inſ. 2 *Scarab.* 1. tab. A. fig. 1. et *Inſ.* 4. tab 5. fig. 3.

Edw. Av. tab. 334.

Quis, ait celeberrimus Buffonus, efficit ut de ſummo mundi Creatore altius ſublimiuſque concipiamus? an ille qui ſoles et planetas poteſtate ſua formantem, mundorumque circulos gubernantem depingit; an qui apum œconomiam ordinantem, aut alas Scarabæi ſerio et ſedulo plicantem? Talis equidem tanti viri ſententia Hiſtoriæ Naturalis minutiores partes inveſtigantibus foret inimiciſſima, utpote vix hominis literati ſtudio dignas,

dignas, aut ſaltem præ majoribus et nobilioribus Zoologiæ partibus ſordidas, niſi quod et alii de hac re cenſuerint in eadem ponamus trutina; viri nempe non minus ingenio vivido et pollenti, quam virtute per omne ævum laudandi. Perilluſtris Boylius breviter et nervoſe ſuam ita ſententiam edidit; ſe non tam Naturæ majoribus horologiis, quam parvulis et minutis ſtupeſcere; Deumque plane dixit eſſe maximum in minimis. Et profecto ſi elephantis aut rhinocerotis molem giganteam miramur, acarum attoniti contemplemur neceſſe eſt, cui plura ſunt membra, corpuſque magis complicatum quam animalibus majoribus. Ad ſummum vero augetur nobis admiratio, innumera iſta animalcula explorantibus, quæ non niſi microſcopii ope videnda ſunt; quibus vel ipſe acarus eſt quaſi elephas. Immortalis Plinii ſententia de his parvulis Naturæ operibus ex ipſius verbis conſtat. "In his tam parvis, tamque fere nullis, quæ ratio! quanta vis! quam inextricabilis perfectio!"

Inſectum vero, quod nunc deſcribere pergimus, nequaquam ad minora inſecta pertinet, ſed inter maximas ſui generis ſpecies numeratur. Phyſicis probe cognitum eſt, et a multis deſcriptum. Americam incolit calidiorem, et inter alios ſcarabæos præminet cornu in vaſtam longitudem e thorace extenſo necnon alio cornu a capite orto, et ſurſum tendente, donec cornu thoracis pene occurſet. Cornu ſuperius ſuperficiem habet inferiorem villo, ſeu tomento denſo holoſerico elegantiſſime veſtitam. Inſecta hæc (ut fertur) Mammææ Americanæ ramulos cornubus complexa, circum-gyrando vulnerant, ut humorem ab arbore inciſa ſtillantem

ſtillantem ſorbeant; quo mox inebriata in terram decidunt, et facillime capiuntur. Huic tamen famæ, ut doctus obſervat Fabricius, fides non temere habenda eſt, quoniam, ut antea diximus, cornu, cui ſuperficies inferior barbata eſt, hoc modo abraſum omnino denudaretur. Inſectum hoc, ob molem inſignem, optimum præbet exemplum characteris generici. Magnitudine multum variat. Dubitari etiam merito poteſt, annon minora aliqua ſpecimina veluti ſpeciem diverſam deſcripſerint auctores; exempli gratia Scarabæum Alcidem Fabricii, adeo huic noſtro affinem, at vix probe ſeparari queat, quamvis multo ſit minor, cornuaque minus conſpicue dentata gerat.

London Published June 1st 1790 by T. P. Nodder & Co. 13 Panton Street.

THE

HERCULES BEETLE,

GENERIC CHARACTER.

Antennæ divided at the tip or head into ſeveral lamellæ.

Tibiæ, (or ſecond joints of the fore legs) generally toothed.

SPECIFIC CHARACTER, &c.

BEETLE, with the thoracic horn very large, bent downward, bearded beneath, furniſhed with a ſingle tooth, and biſid at its extremity: the horn on the head bent upwards, and furniſhed on its upper part with ſeveral teeth.

Röſel. vol. 2. plate A. fig. 1. and vol. 4. plate 5. fig. 3.

Drury, vol. 1. plate 30. fig. 1.

Edwards, vol. 7. plate 324.

Who, ſays the celebrated Count De BUFFON, gives us the grandeſt and, and moſt magnificent ideas of the Creator of the univerſe? He who repreſents him ſuperintending the formation of ſuns and of planets, and

and guiding the revolutions of worlds, or he who diſcovers him buſied in regulating the œconomy of an hive of bees, or deeply engaged in ſoiding the wings of a beetle? Such an obſervation, from ſo elevated a character, might be capable of exciting a very wrong and unfavourable idea, with reſpect to the ſtudy of the ſmaller branches of Natural Hiſtory; as if unworthy of any conſiderable ſhare of attention, or at leaſt of but ſlight importance, when compared with the higher orders of Zoology. But let us recollect the ſentiments of other men, of the moſt comprehenſive minds, the moſt brilliant abilities, and the moſt exalted piety and virtue.

The celebrated Mr. Boyle uſed to expreſs himſelf on this ſubject in a ſomewhat ſingular phraſe, viz. That for his own part, his wonder dwelt not ſo much on the clocks as the watches of Nature; and that the Creator appeared in reality to be *maximus in minimis*. If we are ſtruck with admiration at the prodigious bulk of the elephant, or the rhinoceros, we are loſt in aſtoniſhment at the contemplation of a mite, for in that animal there is a more complicated ſtructure, and a greater variety of parts than in the larger animals; and how muſt this aſtoniſhment increaſe, when we contemplate by the help of glaſſes, thoſe innumerable legions of animalcula, compared to which, a mite may itſelf be regarded as a kind of elephant.

The opinion of Pliny on the minuter parts of Nature is evident, from his own words. "In his tam parvis tamque fere nullis quæ ratio! quanta vis! quam inextricabilis perfectio!".

The

The inſect, however, which makes its appearance on the preſent plate, is not amongſt thoſe of the ſmaller order; but on the contrary, is one of the moſt gigantic animals of the claſs to which it belongs. This curious creature has long been known to the admirers of Natural Hiſtory, and has been figured by ſeveral authors. It is a native of the warmer parts of America, and is remarkable for the exceſſive length of the horn, which proceeds from its thorax, as well as for another horn which proceeds from its head, and bends upwards, ſo as almoſt to meet the thoracic one. The uppermoſt of theſe horns, or proceſſes, is moſt curiouſly coated on the inner ſurface, with a fine hair or velvet-like ſubſtance.

It has been ſaid that theſe inſects have a cuſtom of taking hold of the ſlender branches of the Mammæa Americana, and ſwinging themſelves round with ſuch rapidity, as to wound, by this circular motion, the branch on which they faſten, in order to be enabled to ſuck the juice diſtilling from the tree; by which they are ſoon inebriated, ſo as to fall in great numbers on the ground, and to be eaſily taken. But this account, as the learned Fabricius has well obſerved, ſeems not very probable; ſince the thoracic horn being bearded on its lower ſurface, would undoubtedly be made bare by this operation. This Inſect, from the remarkable ſize of all its parts, affords an admirable example of the characters of the genus to which it belongs.

It varies much in ſize, and it may even be much doubted whether ſome of the ſmaller ſpecimens have not been regarded as diſtinct ſpecies by authors: ſuch, for inſtance, is the *Scarabæus Alcides* of Fabricius, which

which ſeems ſo extremely nearly allied to the Hercules, as ſcarce to admit of ſeparation, notwithſtanding its ſize, which is hardly more than half that of the former; and the horns not furniſhed with ſuch remarkable denticulations as in the Hercules.

PSITTACUS PULLARIUS.

Character Genericus.

Roſtrum aduncum: mandibula ſuperiore mobili, cera inſtructa.
Nares in roſtri baſi.
Lingua carnoſa, obtuſa, integra.
Pedes ſcanſorii.

Lin. Syſt. Nat. p. 139.

Character Specificus,

PSITTACUS brachyurus viridis, fronte rubra, cauda fulva faſcia nigra, orbitis cinereis.

Lin. Syſt. Nat. p. 149.

PSITTACUS GUINEENSIS.

Edw. Av. t. 237. f. 1.

Lath. Synopſ. 1. p. 309.

In caveis incluſam hanc aviculam plerique tam frequenter conſpexerunt, ut hoc ipſum ab admiratione detrahat quam aliter ſibi vindicaret excellens pulchritudo. Hiſtoriæ naturalis cultoribus tam probe cognita eſt hæc ſpecies, ut illam peculiariter deſcribere non ſit neceſſe: ſatis ſit dicere ſpeciem eſſe pulcherrimam; moresque ejus ſuaves et manſuetos formæ tam

eximiæ

eximiæ bene reſpondere. Africæ eſt indigena, et in Guinea frequentiſſima eſt. In India etiam Orientali invenitur. Nomen ejus Anglicanum commune eſt *Guinea-Sparrow*.

London Published July 1st 1790 by F. P. Nodder & Co. No 13 Panton Street

THE
GUINEA PARRAKEET.

Generic Character.

Bill hooked. Upper mandible moveable.
Noſtrils round, placed in the baſe of the bill.
Tongue fleſhy, broad, blunt at the end.
Legs ſhort. Toes formed for climbing, viz. two backward and two forward.

Linnæus and *Pennant.*

Specific Character, &c.

SHORT-TAILED GREEN PARROT, with red front; tail fulvous with a black bar; orbits of the eyes grey. *Lin.*

RED-HEADED GUINEA PARRAKEET. *Latham,* fol. 1. p. 309.

This beautiful little bird is ſo often ſeen in cages, that the circumſtance of its not being a rare ſpecies ſeems in ſome degree to leſſen the admiration due to its uncommon elegance. As it is ſo well known to Naturaliſts, it is unneceſſary to ſay more than that it is one of the moſt brilliant of its genus, and that the beauty of its appearance is equalled by the gentleneſs

of its manners. It is an African bird, and abounds in Guinea. It is alſo found in the Eaſt Indies. In England this bird is generally called by the name of the Guinea-Sparrow.

MANIS TETRADACTYLA.

Character Genericus.

Dentes nulli.
Lingua teres, extenſilis.
Os anguſtatum in roſtrum.
Corpus ſquamis tectum.

Lin. Syſt. Nat. p. 52.

Character Specificus, &c.

MANIS pedibus tetradactylis.

Lin. Syſt. Nat. p. 53.

LACERTUS ſquamoſus peregrinus.

Cluſ. Exot. 374.

Tam prope accedit hæc Manis ſpecies ad ſimilitudinem Manis Pentadactylæ, in priore numero hujus operis depictæ, ut a quibuſdam phyſicis varietas potius quam ſpecies diſtincta cenſeatur. Linnæus etiam ipſe, cum characterem illi ſpecificum ſtatuerit, addit, "præcedenti nimis affinis." Caudæ tamen longitudo, quæ in omnibus ſpeciminibus a meipſo obſervatis, illam Manis Pentadactylæ longe ſuperat, ſquamæque magis oblongæ, acuminatæ etiam et ſtriatæ, ſeu ſulcatæ, nec non corporis forma gracilior, cum aliis differentiis, quæ accurate perpendenti phyſico patebunt, clare demonſtrant

monſtrant hanc ſpeciem alteram omnino et diverſam eſſe. Quod ad habitus vitæque mores attinet, ea omnia in hiſtoria alterius ſpeciei antea deſcriptæ numerantur. Nihil igitur reſtat, quin ut illam ipſam deſcriptionem adeat lector.

London Published July 1st 1790 by F.P. Nodder & Co. N.o 13 Panton Street.

THE
FOUR-TOED MANIS.

GENERIC CHARACTER.

No *Teeth.*
Tongue cylindric and extenſile.
Mouth narrowed into a ſnout.
Body covered with ſcales.

SPECIFIC CHARACTER, &c.

MANIS with tetradactylous (or four-toed) feet.
Lin.

LONG-TAILED MANIS.
Pennant. Hiſt. Quadr. p. 504.

This ſpecies of Manis makes ſo very near an approach to the Manis Pentadactyla, figured in a former number of this work, that it has been regarded by ſome Naturaliſts as a variety rather than a diſtinct ſpecies; and Linnæus in his Syſtema Naturæ, after giving its ſpecific character, obſerves that it is almoſt too nearly allied to the other to be regarded as diſtinct. The length of the tail however, which in all the ſpecimens I have ever obſerved, very greatly exceeds the proportion of the ſame part in the former ſpecies, as well as the more oblong and even acuminate form of the furrowed or ſtriated ſcales, together with a greater degree of ſlenderneſs in the

the body, and ſome other particulars which an attentive ſurvey diſcovers, ſeem clearly to prove a real ſpecific difference. In point of general habits and mode of life nothing need be added to what has been already ſaid of the other ſpecies, or M. Pentadactyla, to which the reader is therefore referred for its hiſtory.

FULGORA LANTERNARIA.

Character Genericus.

Caput fronte producta, inani.
Antennæ infra oculos: articulis 2; exteriore globoso majore.
Roſtrum inflexum.
Pedes greſſorii.

Lin. Syſt. Nat. p. 703.

Character Specificus, &c.

FULGORA fronte ovali recta, alis lividis; poſticis ocellatis.

Lin. Syſt. Nat. p. 703.

LANTERNARIA.

Mer. Sur. t. 49.
Röſel. Inſ. 2. gryll. t. 28, 29.
Fabr. Spec. Inſ. vol. 2. p. 313.

Vix aliud in Inſectis videtur mirabilius luce illa phoſphorea, quam certæ ſpecies emittunt. Inter inſecta Europæa, Lampyrides, (quæ ad *Coleoptera* Linnæi referuntur) maxime hac qualitate pollent. In America eſt ſpecies Elateris, cui multa ineſt vis lucem in tenebris ſpargendi. Scolopendra etiam vulgaris Europæa, (quæ Scolopendra electrica Linnæi) manifeſte noctu lucet,

lucet, præſertim ſi aliquo modo ſit irritata aut compreſſa. Præ cæteris tamen inſectis eminet ſpecies in tabula depicta, quæ communiter Lanternaria Peruviana dicitur: lucem enim adeo vividam ſpargit, ut viatores noctu ambulantes iter ſuum commode peragere poſſint, ope unius vel duorum horum animalium, baculo alligatorum, geſtatorumque more facis. Inſectum hoc ad ordinem naturalem pertinet inſectorum quatuor alas habentium, quarum exteriores ſunt magis coriaceæ ſeu denſæ in parte ſuperiore quam inferiore. Hujus ordinis inſecta *Hemiptera* Linnæi conſtituunt, inter quæ major pars roſtrum tubulatum ſub pectore gerunt, cujus ope ſugendo ſe nutriunt. Hinc patet Fulgoram et Cicadam eſſe valde affines. Fulgora frequens in America calidiori reperitur, et a Domina Merian in hiſtoria ſua inſectorum Surinamenſium nec non ab aliis Naturæ indagatoribus deſcripta eſt. Non injucunde narrat Merian metum ſibi ingentem ineuſſiſſe flammeas corruſcationes ab inſectis hiſce exortas, cum adhuc facultatis quam habent lucem in tenebris emittendi ignara eſſet. "Cum aliquando (inquit illa) Lanternarios magna copia mihi attuliſſent Indi, ſcatulæ eoſdem majori ligneæ incluſi, illos noctu lucere adhuc inſcia; verum de nocte inſolito ſtrepitu expergefacta, et perterrita, e lecto proſiliens, lumen accendere juſſi, quis domi meæ inſuetus eſſet ſtrepitus ignara. Tum vero e ſcatula ſtridorem profectum illico nobis patuit; illam itaque cum animi quadam perturbatione aperuimus, ſed adapertam magis adhuc paventes in terram ſubito dejecimus, quod inter aperiendum inde velut ignea erumperet flamma, toties refulgens quoties novum

evolaret

evolaret inſectum: quo tandem animadverſo, ad nos redeuntes, iterum congregavimus animalcula, ſplendorem in ipſis plurimum demiratæ." Ope etiam unius inſecti, ut affirmat Merian commode aliquis noctu legere poteſt.

Non abs re ſit addere quod quamvis Domina Merian figuras horum animalium pulchre et accurate depingi curaverit, tamen transformationem ipſius inſecti a larva ad integrum ſtatum deſcribere conata, figuram, ut videtur, fictam introduxit, nempe cicadæ ſpeciem (quæ Cicada Tibicen Linnæi) cum capite Fulgoræ.

Lux phoſphorea a Fulgora dimanans, a capite concavo ſeu velut inflato procedit: nulla enim alia pars phoſphorea eſt.

THE

GREAT LANTHORN-FLY,

OR

FIRE-FLY.

GENERIC CHARACTER.

Head hollow, inflated, and produced forwards.
Antennæ below the eyes, conſiſting of 2 joints, the exterior larger and globoſe.
Beak inflected.
Feet formed for walking.

SPECIFIC CHARACTER, &c.

FULGORA with large oval head; variegated wings; the lower pair ocellated.

LANTERNARIA.

Merian. Sur. t. 49.

Röſel. vol. 2. t. 28, 29.

Few circumſtances are more remarkable amongſt inſects than the phoſphoric light with which ſome particular ſpecies abound. Amongſt the European inſects this quality is moſt conſpicuous in the Glow-Worms, which are of the Linnæan genus Lampyris, and belong to the Coleopterous tribe. In America a large ſpecies of Elater, or Springing-Beetle is poſſeſſed of this faculty in

London, Published July 1st 1799 by E.P. Nodder Esq. 132 Boston Street.

in a very high degree; the common ſmall Scolopendra of Europe, and which is well known in our own country, is pretty ſtrongly phoſphoric likewiſe, eſpecially if preſſed or irritated; but of all inſects that which is here repreſented, and which is generally called the Lanthorn-Fly of Peru, poſſeſſes this lucid quality in the moſt eminent degree, and affords a light ſo vivid, that travellers walking by night are ſaid to be enabled to purſue their journey with ſufficient certainty by one or two of theſe inſects tied to a ſtick and carried in the manner of a torch. The inſect belongs to the natural order of Hemipterous inſects, or ſuch as are furniſhed with four wings, of which the exterior pair on the upper part are of a ſtronger or more coriaceous nature than on the lower. The diviſion in this tribe to which it ſtrictly belongs, is that containing the roſtrated inſects, or ſuch as have a tube or inſtrument of ſuction lying flat, beneath the breaſt. It is therefore extremely nearly allied to the genus Cicada. It is common in many parts of South America, and amongſt other writers is deſcribed by the celebrated Madam Merian in her hiſtory of the Surinam inſects. She gives an entertaining account of the alarm into which ſhe was thrown by the flaſhing which proceeded from them in the dark, before ſhe had been apprized of their ſhining nature.

"The Indians once brought me (ſays ſhe) before I knew that they ſhone by night, a number of theſe Lanthorn-Flies, which I ſhut up in a large wooden box. In the night they made ſuch a noiſe that I awoke in a fright, and ordered a light to be brought, not being able to gueſs from whence the noiſe proceeded:

as

as ſoon as we found that it came from the box, we opened it, but were alarmed ſtill much more, and let it fall to the ground in a fright at ſeeing a flame of fire come out of it; and as many animals as came out, ſo many flames of fire appeared. When we found this to be the caſe, we recovered from our fright, and again collected the inſects, much admiring their ſplendid appearance." She adds, that the light of one of theſe inſects is ſo vivid that a perſon may ſee to read a newspaper by it.

It may not be improper to obſerve, that though Madam Merian has given good figures of the Fire-Fly, yet, by way of explaining the change from its ſuppoſed larva into the complete inſect, ſhe ſeems to have introduced an imaginary figure, repreſenting the Cicada Tibicen with the head of a Fulgora. The light emitted by the Fire-Fly proceeds entirely from the hollow part, or Lantern of the head; no other part of the animal being luminous.

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